DAEWOO

Service Manual

Color Television

CHASSIS : CN-200I/A

NTSC-M SYSTEM

MODEL: DTQ-26S1FC/FS/FSP(CN-200I)

DTQ-29S1FCN/FSN/FSP(CN-200I)

DTQ-26S1HC/HS/HSP(CN-200A)

DTQ-29S1HC/HS/HSP(CN-200A)

DAEWOO ELECTRONICS CO., LTD.
OVERSEAS SERVICE DEPT.

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FEATURES

* FS (Frequency Synthesizer) Tuning System
* CATV Ready
* Monitor Look Design
* A/V IN. (Stereo)
* Stereo/Mono Function

ELECTRICAL SPECIFICATIONS

POWER INPUT	
FC SERIES	AC 120V 60Hz
FS SERIES	AC 85V ~ AC 150V 60Hz
FSP SERIES	AC 220V 50Hz/60Hz
POWER RATING	
26” MODELS	100W
29” MODELS	105W
INTERMEDIATE FREQUENCIES	
PICTURE IF CARRIER FREQUENCY	45.75MHz
SOUND IF CARRIER FREQUENCY	41.25MHz
COLOR SUB CARRIER FREQUENCY	42.17MHz
AUDIO OUTPUT RATING	1.2W × 2
SPEAKER	2W 8 ohm × 2
ANTENNA INPUT IMPEDANCE	VHF/UHF 75 ohm UNBALANCED
TUNING RANGES	
VHF	2 THRU 13
UHF	14 THRU 69
CATV	1 THRU 125

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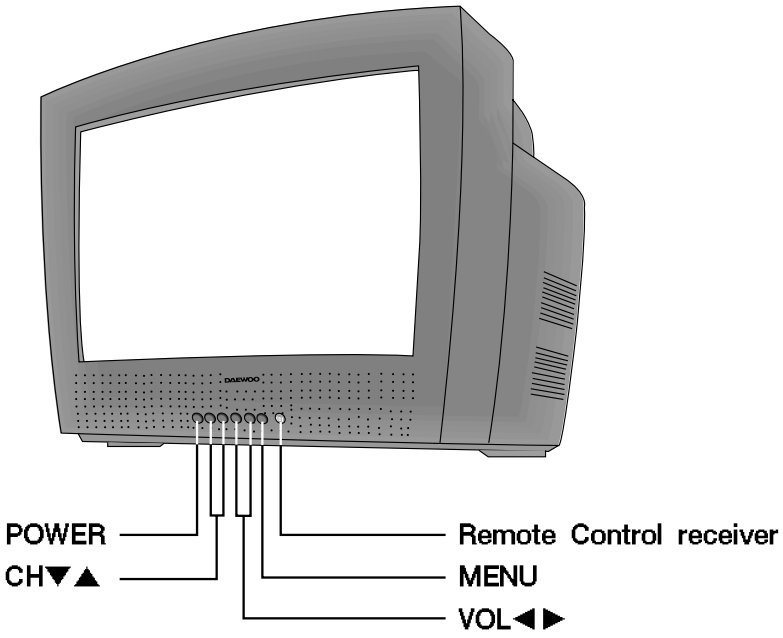
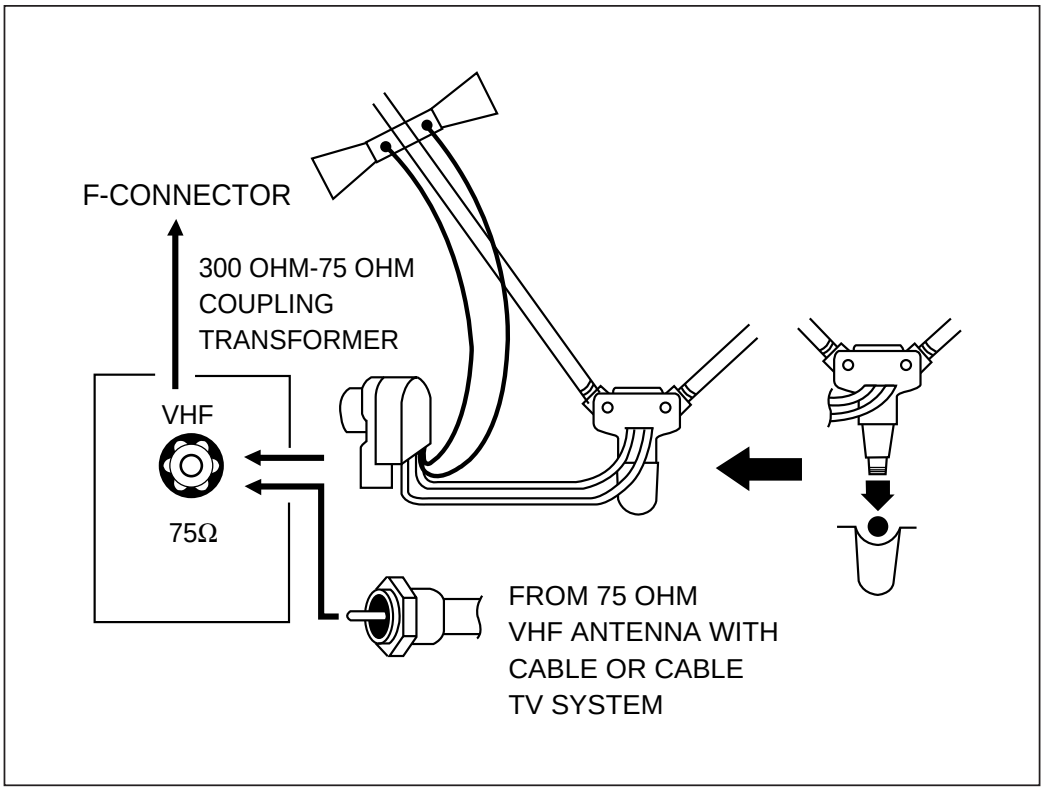
CONTROL VIEW





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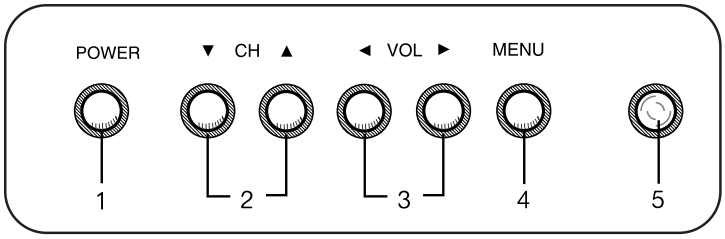
1. Overview of Your Equipment

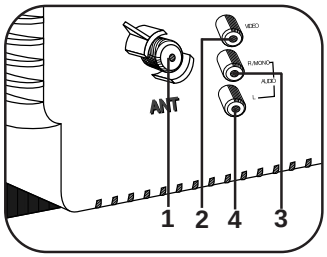
Your TV comes with a remote control. The section below summarizes the buttons,controls, and terminals that you will use with your TV.

2. Your TV' s Front Panel

1. POWER
   Use this buttom to turn your TV on or off.
2. ▼CH▲
   Use these buttom to change channels on your TV, or to select items in the menu system.
3. ◀VOL▶
   Use these buttom to change your TV' s volume, to activate selections in the menu system, or to change audio and video settings.
4. MENU
   Use this buttom to turn the TV' s menu system on and off.
5. Remote control receiver
   This receiver receives a signal from your remote control. Do not block it.



3. Your TV' s Back Panel



1. Antenna terminal
   Use this terminal to attach an antenna or cable system to your TV.
2. VIDEO IN
   This terminal allows the TV to receive a video signal from another components, such as a VCR.
3. AUDIO R/MONO IN
   This terminal allows the TV to receive an audio R/MONO signal from another components, such as a VCR.
4. AUDIO L IN
   This terminal allows the TV to receive an audio L signal from another components, such as a VCR.

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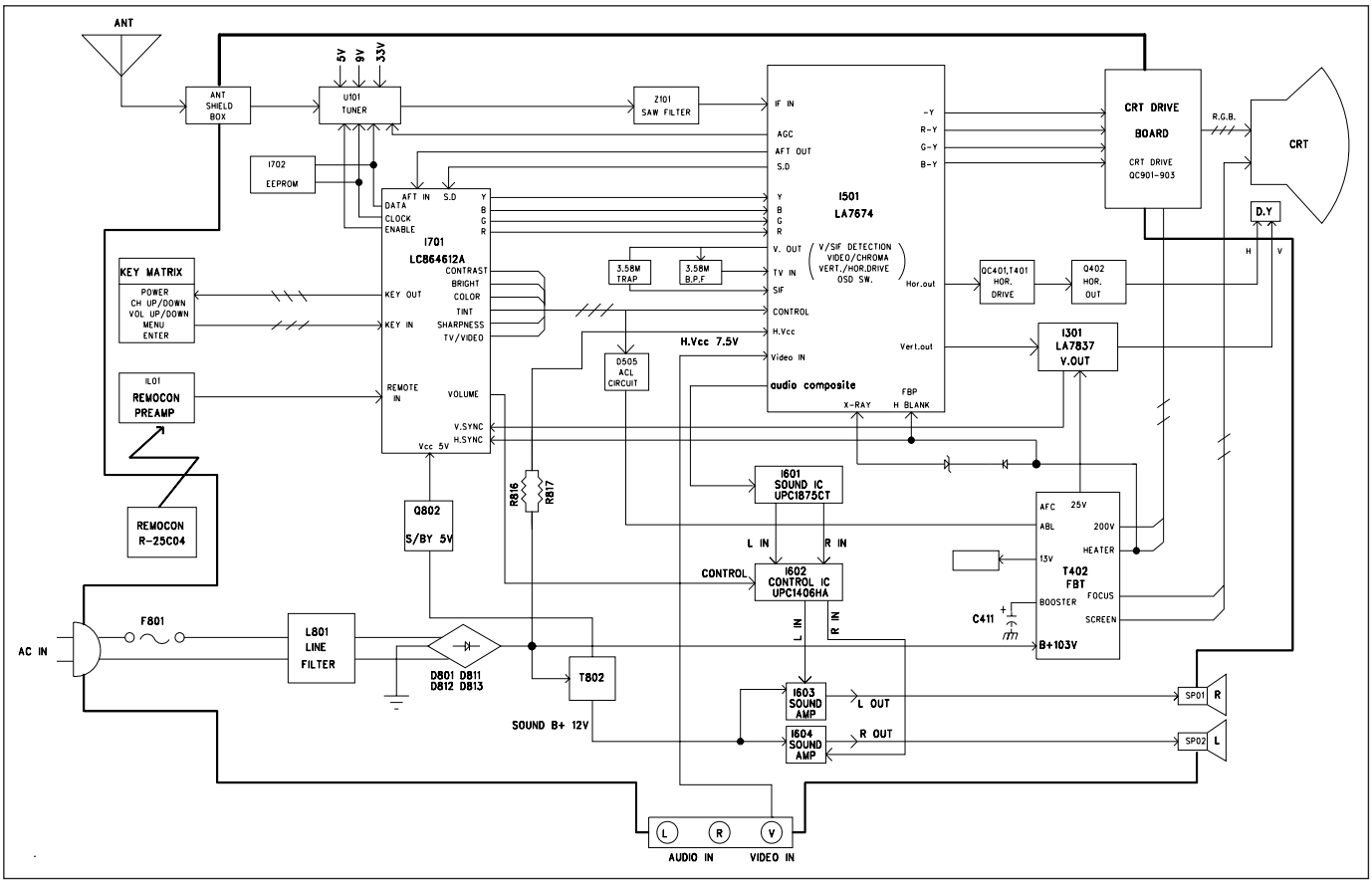
BLOCK DIAGRAM (CN-200I)



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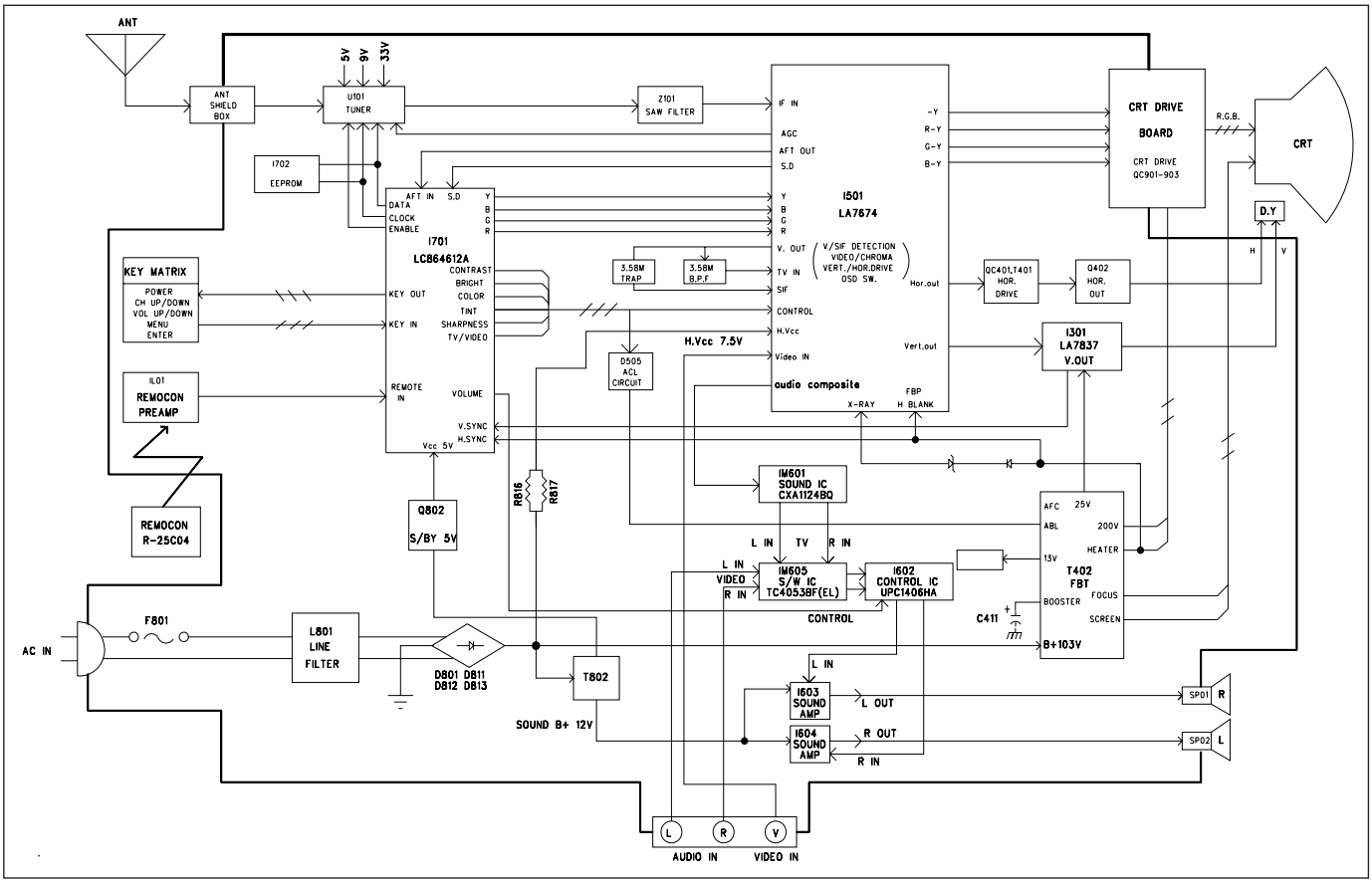
BLOCK DIAGRAM (CN-200A)



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GENERAL ADJUSTMENTS

1. GENERAL

In the majority of cases, all color televisions will need only slight touch-up adjustment upon installation. Check the basic characteristics such as height, focus and sub- basic characteristics such as height, focus and sub- bright. Observe the picture for good black and white details without objectionable color shading.

2. VERTICAL HEIGHT ADJUSTMENT

1) Tune in an active channel.
2) Adjust brightness and contrast controls for a good picture.
3) Adjust vertical height control (R305) for approximately one half inch over scan at top and bottom of picture screen.
4) Vertical centering adjustment R310
   Horizontal centering adjustment R516.

3. FOCUS ADJUSTMENT

1) Tune in an active channel.
2) Adjust brightness, sharpness and contrast controls for a good picture.
3) Adjust focus control (part of T402) for sharp scanning lines and/or sharp picture.

4. RF AGC ADJUSTMENT

1) Tune in an active channel.
2) Using the attenuator, apply the signal of 60dBm to the antenna input terminal.
3) Turn RF AGC control (R113) full clockwise until snow or/and noise appears in the picture, then slowly turn control counter clockwise until snow or/and noise disappears.

5. HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified:

1) Operate Receiver for at least 15 minutes at 120V AC line.
2) Set brightness sharpness, contrast and color control to minumum position (Zero beam).
3) Connect accurate high voltage meter to CRT anode. The reading should be 26kv~28kv

If a correct reading cannot be obtained, check circuity for malfunctioning components.

6. X-RADIATION PROTECTION CIRCUIT TEST

When service has been performed on the horizontal deflection system, high voltage system or B+system, the X-RADIATION protection circuit must be tested for proper operation as follows:

1) Operate receiver for at least 15 minutes at 120V AC line.
2) Adjust all customer controls for normal picture and sound.
3) Short R414(X-RAY Short test), and remove short clip.
4) If the operation of horizontal osc. does not stop in step The circuit must be repaired, before the set is returned to the customer.

7. CRT GRAY SCALE ADJUSTMENT

1) Tune in an active channel.
2) Set the COLOR control to minimum.
3) Turn the SCREEN control (on T402 fully counter-clockwise.)
4) Rotate the RED, GREEN and BLUE BIAS controls (R917, R918, R919) counterclock wise from the maximum, set them to the position where notches in the knobs become parallel to the surface of P.C. Board.
5) Set the GREEN and BLUE DRIVE controls (R920, R921) to the mid position.
6) Turn the service switch SW901 (Service Position) on the CRT board.
7) Rotate the SCREEN control (on T402) gradually clockwise until the second horizontl line following the first line appears slightly on the screen. Then turn fully counterclockwise the two BIAS controls corresponding to the colors of the first and the second horizontal lines to eliminated the lines.
8) Set the SCREEN control to the position where the third horizontal line lights slightly on the screen.
9) Adjust the two BIAS control set to the minimum in item 7) above to obtain the slightly lighted horizontal line in the same levels of three (red, green, blue) colors. (The line should be white if the BIAS controls are adjusted properly.)
10) Turn the service switch SW901 again (Normal position on the CRT board.)
11) Press PICTURE-SEL, P-UP and set the brightness and contrast controls to the maximum.
12) Adjust the BLUE and GREEN DRIVE control to obtain proper white-blanced picture in high light areas.
13) Using P-SEL, P-DN key, set the brightness and contrast controls to obtain dark gray raster. Then check the white balance in low brightness. Of the white balance is not proper, retouch the BIAS controls and DRIVE controls to obtain a good white balance in both low and high light areas.

8. MAIN B+(103V) ADJUSTMENT

1) Tune in an active channel
2) Check TP10 (DC 103V Line) using D.V.M
3) Adjust voltage control (R809) for main B+(DC 103V)

9. SUB-BRIGHTNESS ADJUSTMENT

1) Tune in a color program.
2) Set the CONTRAST control to maximum and the BRIGHTNESS control to maximum and the SHARPNESS control to the center position.
3) Set the COLOR and TINT controls to center.
4) Set the SUB-BRIGHT control R522 to center and leave the receiver on five minutes in this state.
5) Watching the picture carefully, adjust the SUB-BRIGHT control in the position where the picture does not show evidence of blooming in high brightness area and not appear too dark in low bright area.
6) Check for BRIGHTNESS controls at both extremes.
7) If the picture does not appear dark with the CONTRAST and BRIGHTNESS control turned to minimum, or not appear bright with the controls turned to maximum, adjust the SUB-BRIGHT control again for an acceptable picture.

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10. PICTURE IF/AFT ADJUSTMENTS

NOTE : THIS RECEIVER IS TRANSISTORIZED AND SPECIAL CARE MUST BE TAKEN WHEN SERVICING. READ THE FOLLOWING (NOTES BEFORE ATTEMPTING ALIGNMENT)

- Alignment requires an exacting procedure and should be undertaken only when necessary.
- Isolation transformer must be used to prevent shock hazard.
- The test equipment specified or its equivalent is required to perform the alignment properly. Use of equipment which does not meet these requirements may result in improper alignment.
- Accurate equipment is essential to obtain proper alignment of this receiver.
- Use of excessive signal from a sweep generator can cause overloading of receiver circuit Overloading should be avoided to obtain a true response curve. Insertion of markers from the marker generator should not cause distortion of the response curve.
- The AC Power line voltage should be kept 120 volts while alignment is being performed.
- Do not attempt to disconnect any components while the receiver is in operation.
  Make sure the power cord is disconnected before replacing any parts in the receiver.

TEST EQUIPMENT

Digital voltmeter	National Model VP-2600A or equivalent
Oscilloscope	Tektronix Model 2215A or equivalent.
Direct/Low-capacity probe	Tektronix Model P6120 or equivalent (Accessory of oscilloscope)
Color-Bar/Dot/Crosshatch generator	Tektronix Model 146 or equivalent.
PIF sweep marker generator	Nihon Tsushinki Model 4723 or equivalent
Power supply	Academy Model 150A or equivalent
Isolation transformer	Voltage adjustable type having capacity of at least 150 watts

BLOCK DIAGRAM

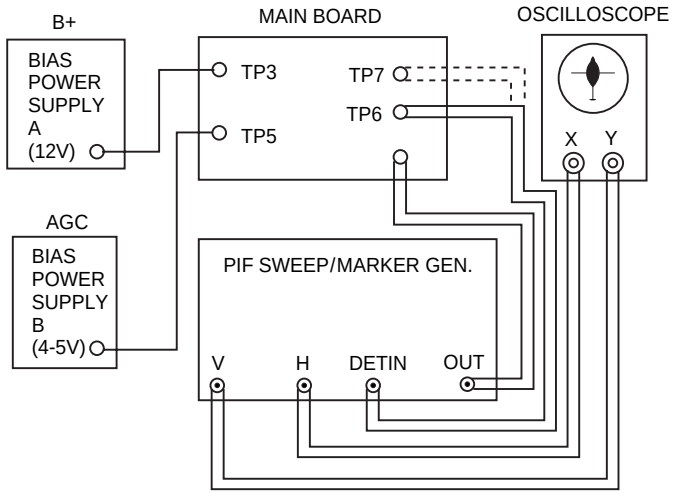

Fig. 5 Picture IF Sweep Alignment

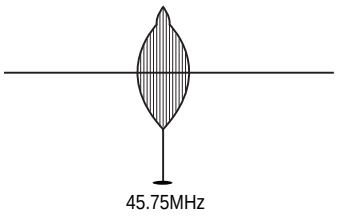

Fig. 6 PIF Response

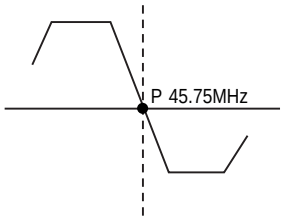

Fig. 7 AFT Response Curve

1) Disconnect the "TUNER IF" output from TP6 and connect equipment as shown above.
2) Set the sweep/marker generator for 30 Vrms.
3) Observe 1 Vp-p on scope by adjusting power supply B (4~5V).
4) Adjust PIF coil L505 for according beat signal with 45.75 MHz marker on scope (See Fig. 6).
5) Connect the 'DET IN' to TP7.
6) Adjust AFT coil L504 for center display at 45.75 MHz on scope (See Fig. 7).
7) After completing the above steps, disconnect equipment and adjust the AGC delay circuit as explained in the General Adjustments section of this manual.

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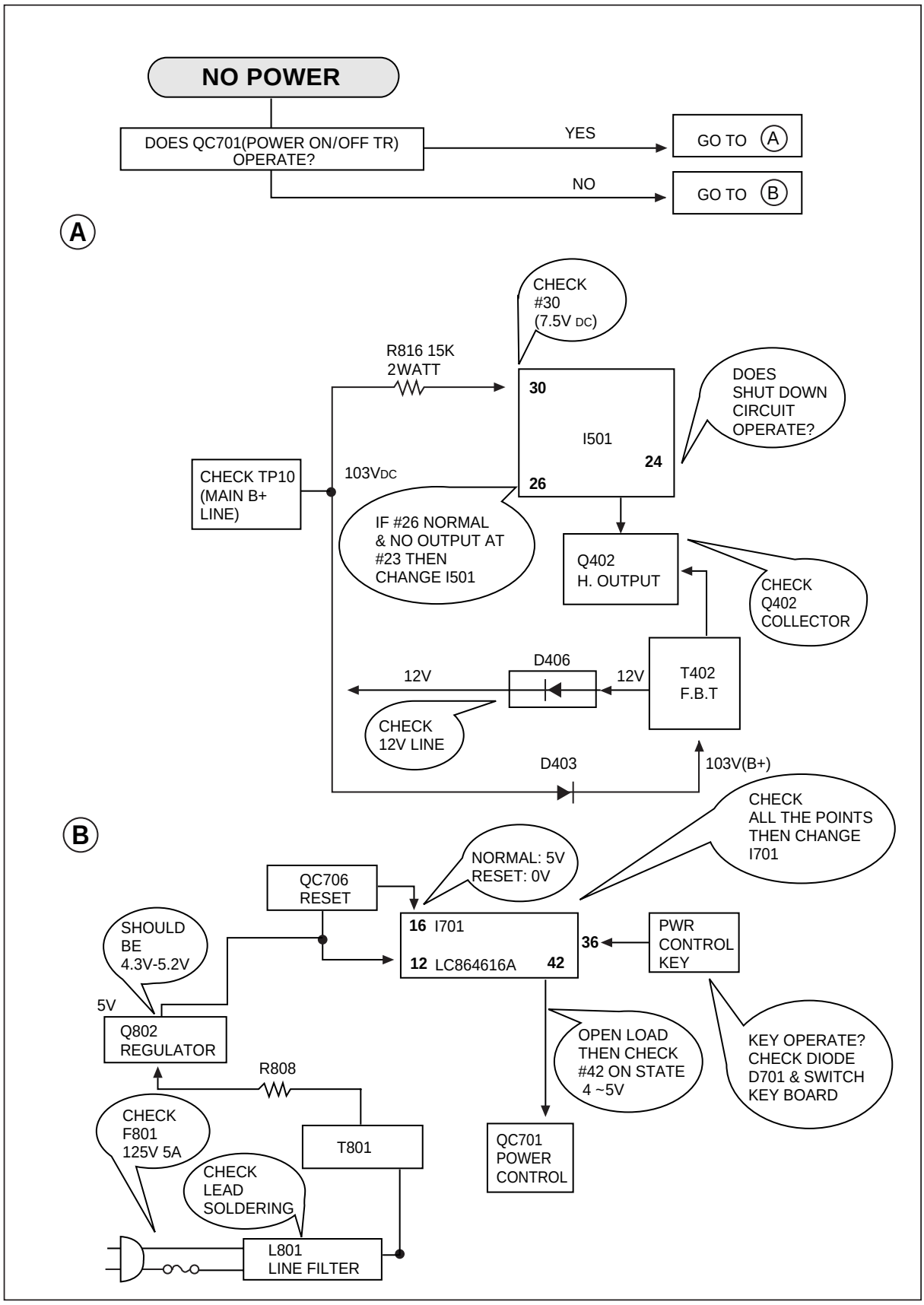
TROUBLE SHOOTING CHARTS



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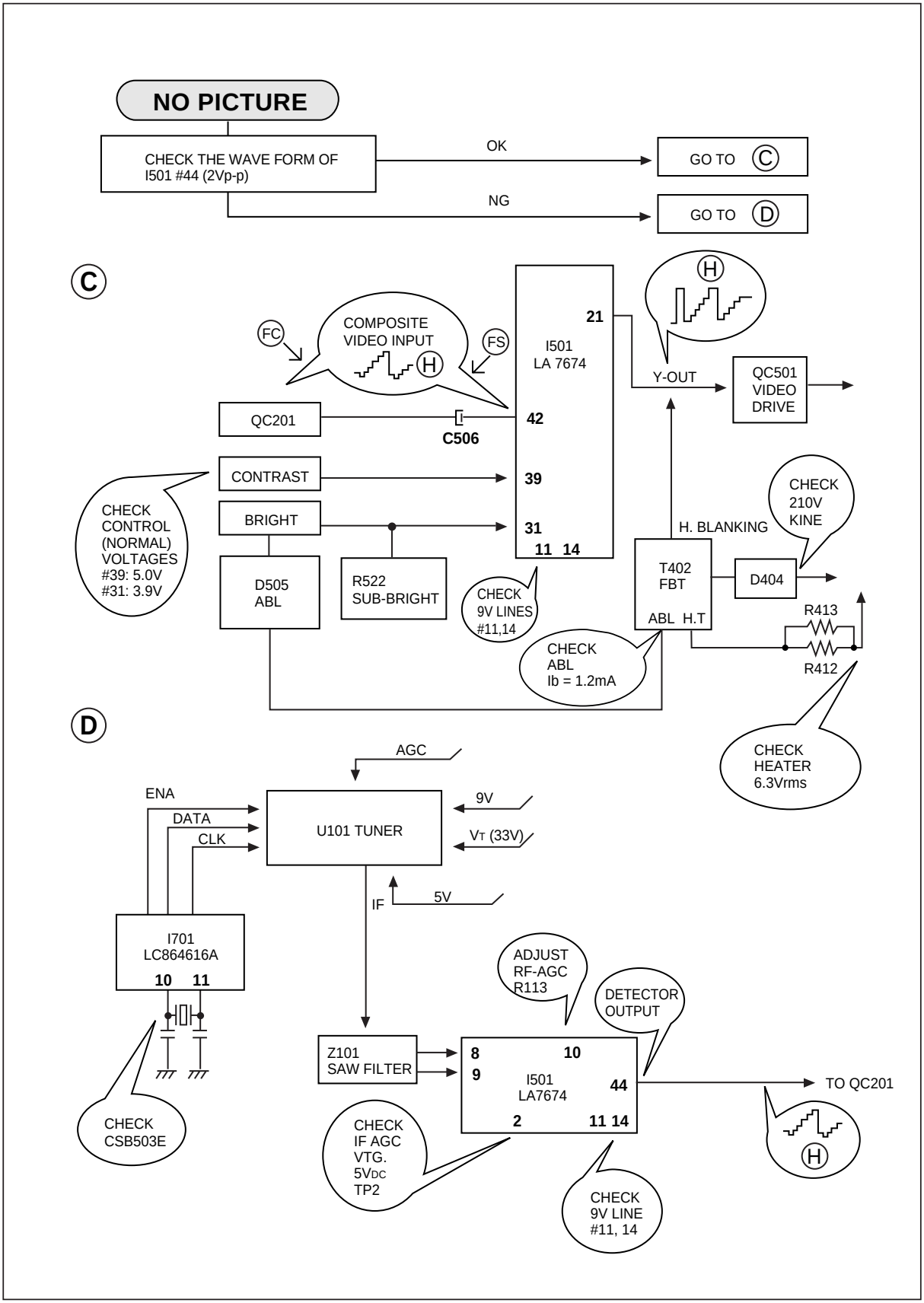

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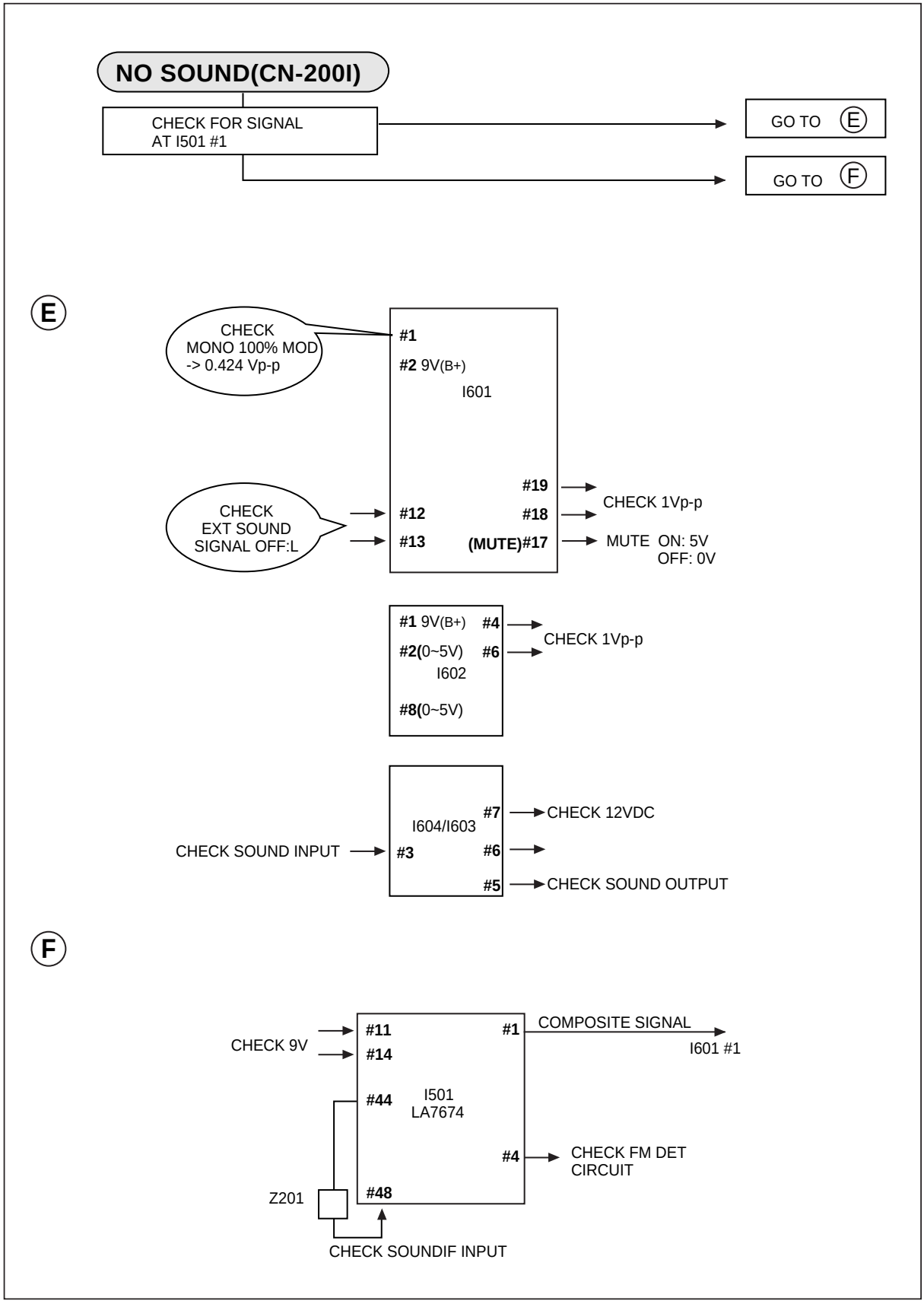

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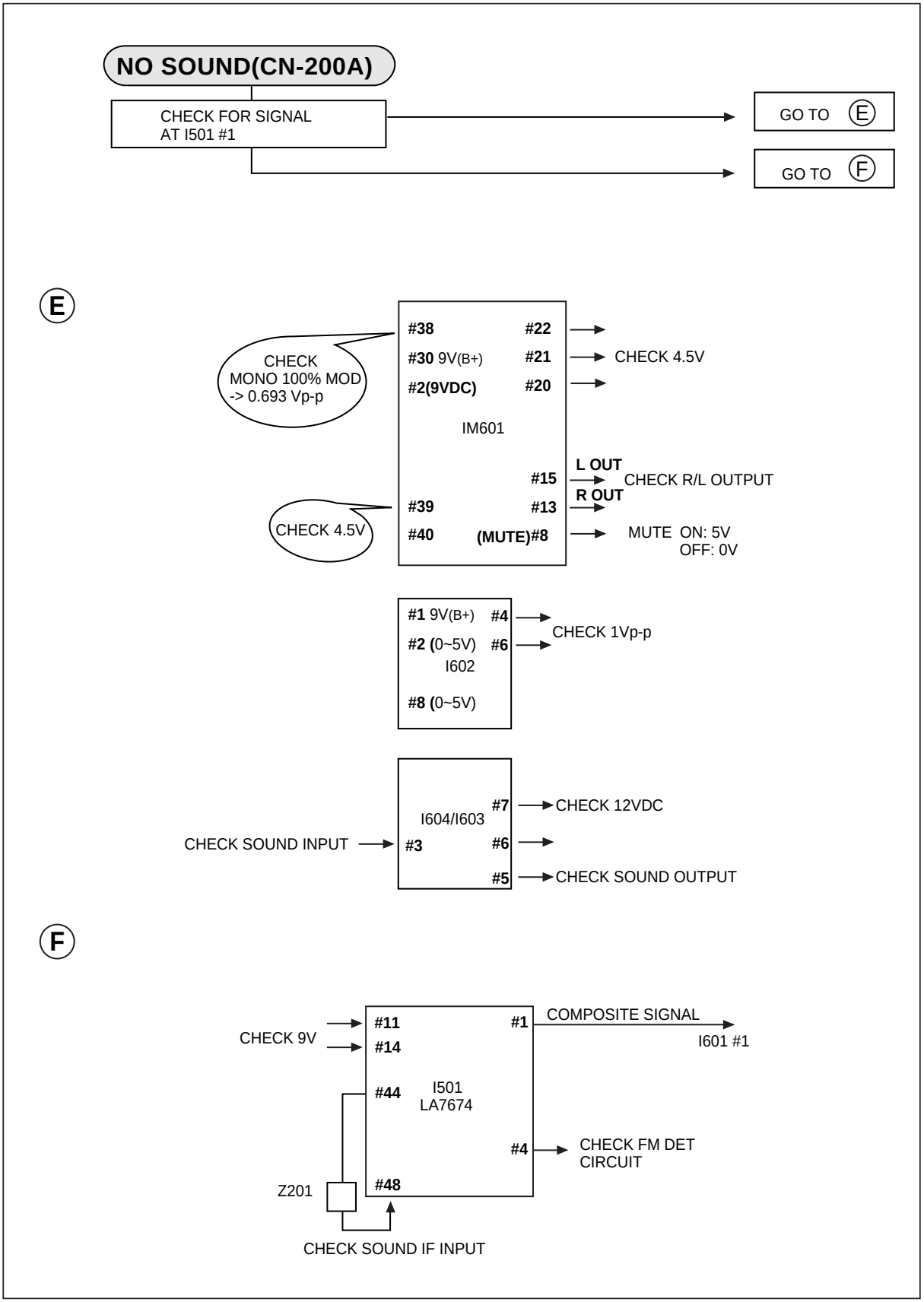

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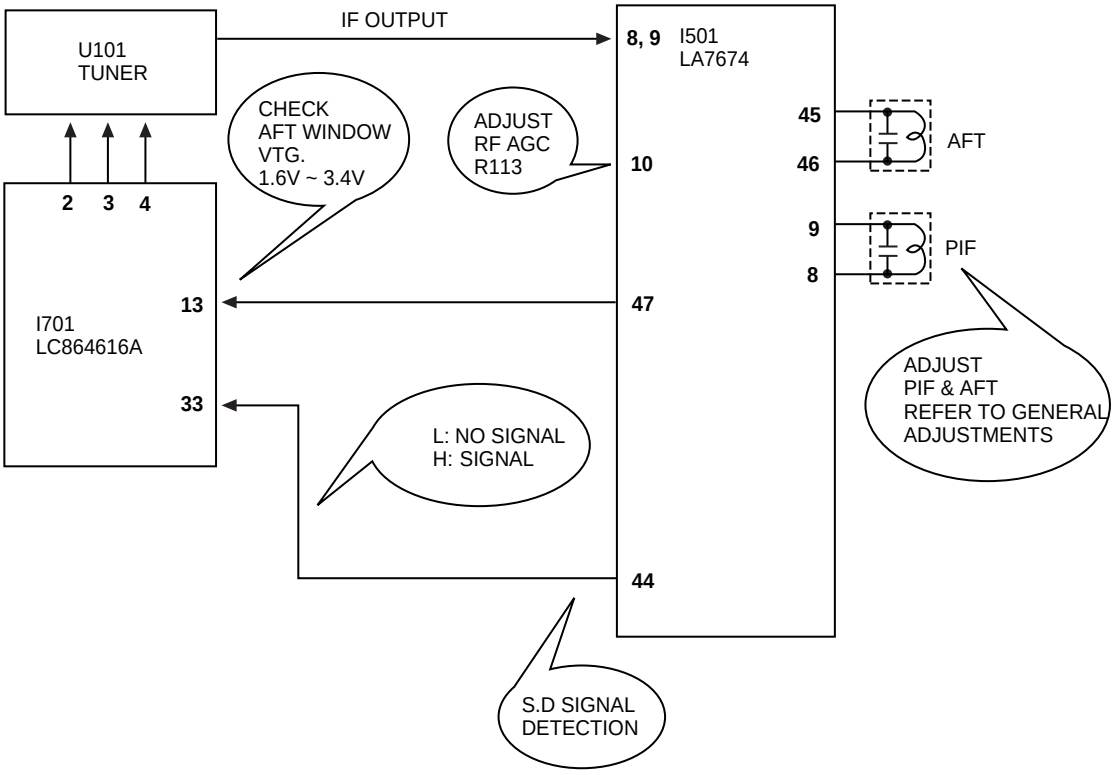

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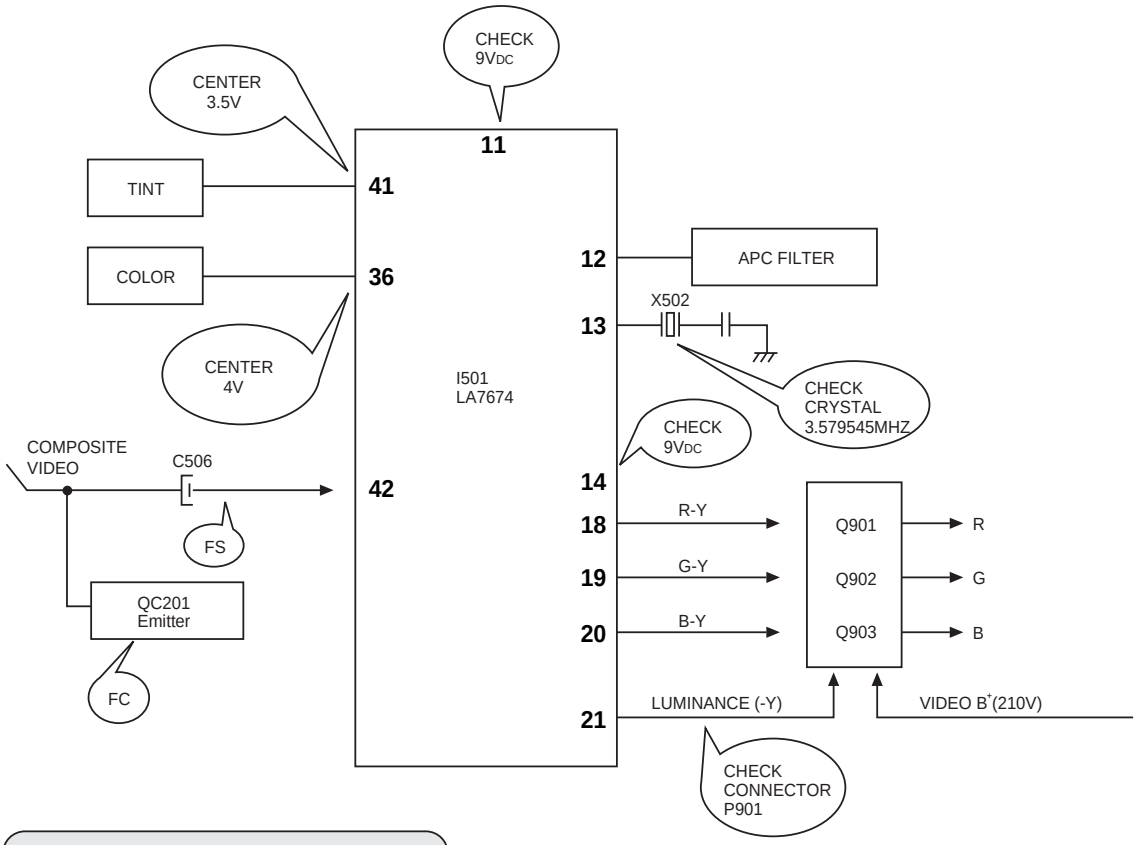
NO COLOR



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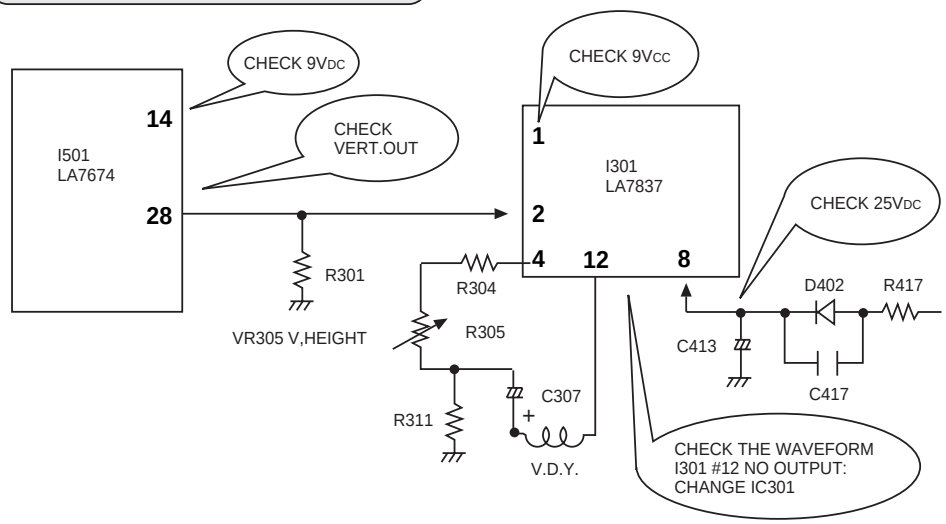

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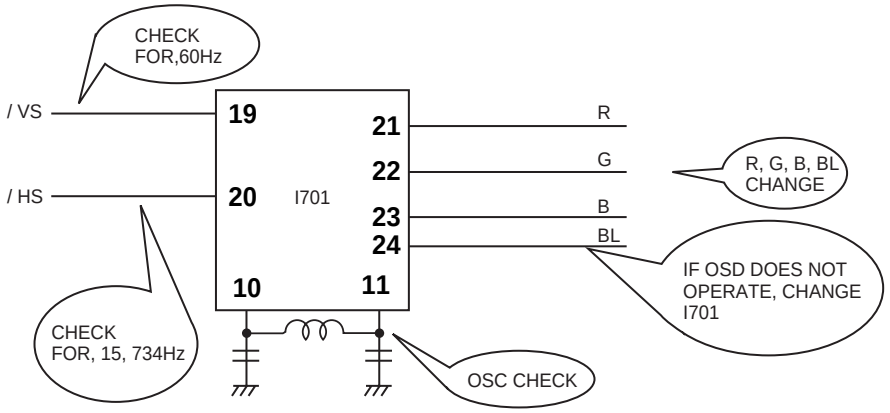
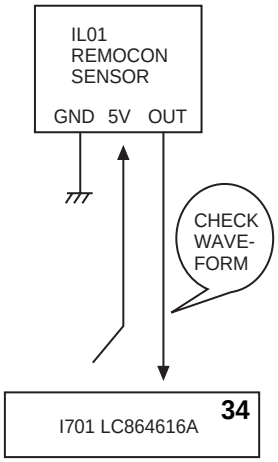
ON SCREEN DISPLAY DOES NOT OPERATE



REMOTE CONTROL DOES NOT OPERATE



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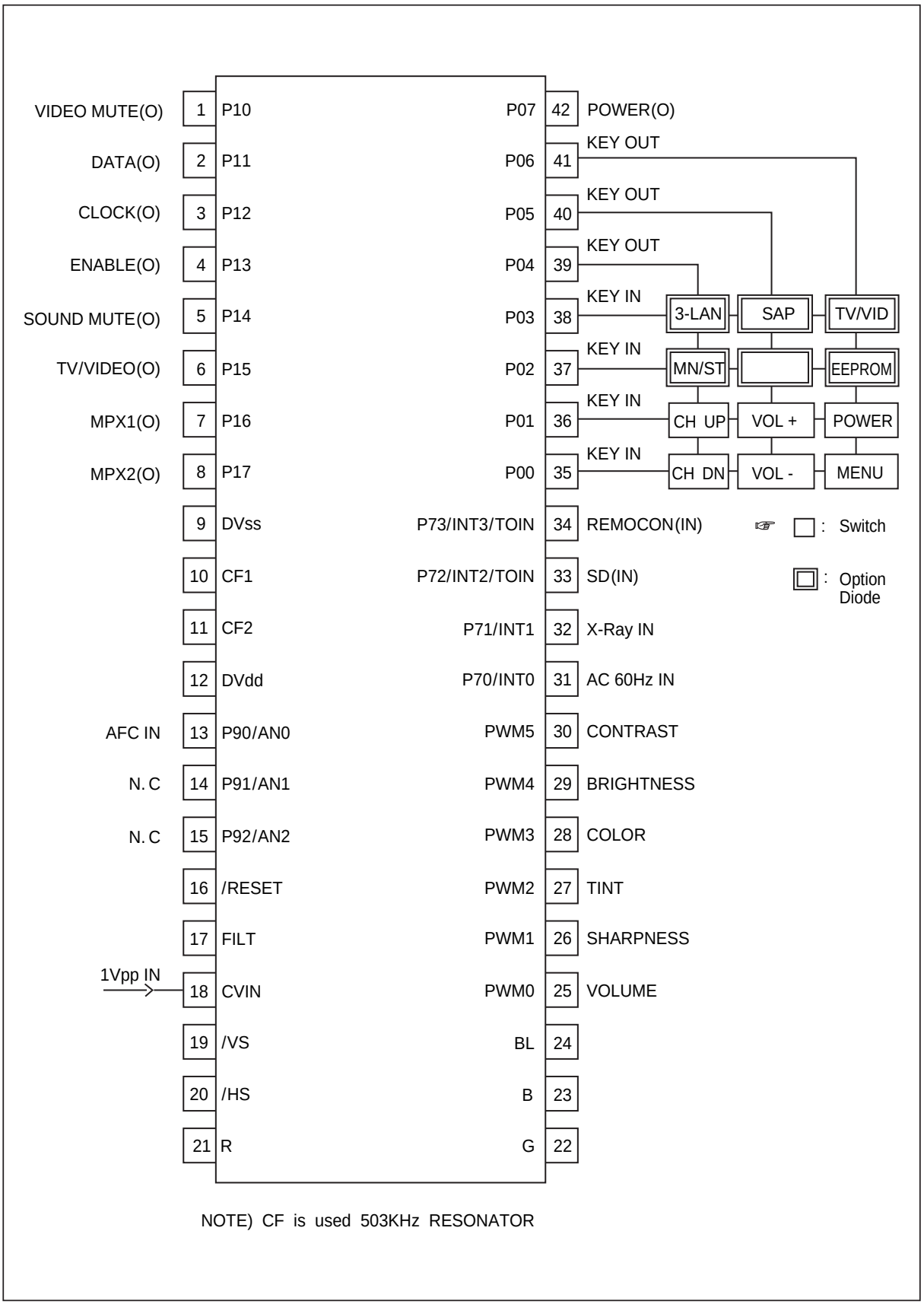
PIN ASSIGN OF IC LC864616A(I701)



NOTE) CF is used 503KHz RESONATOR

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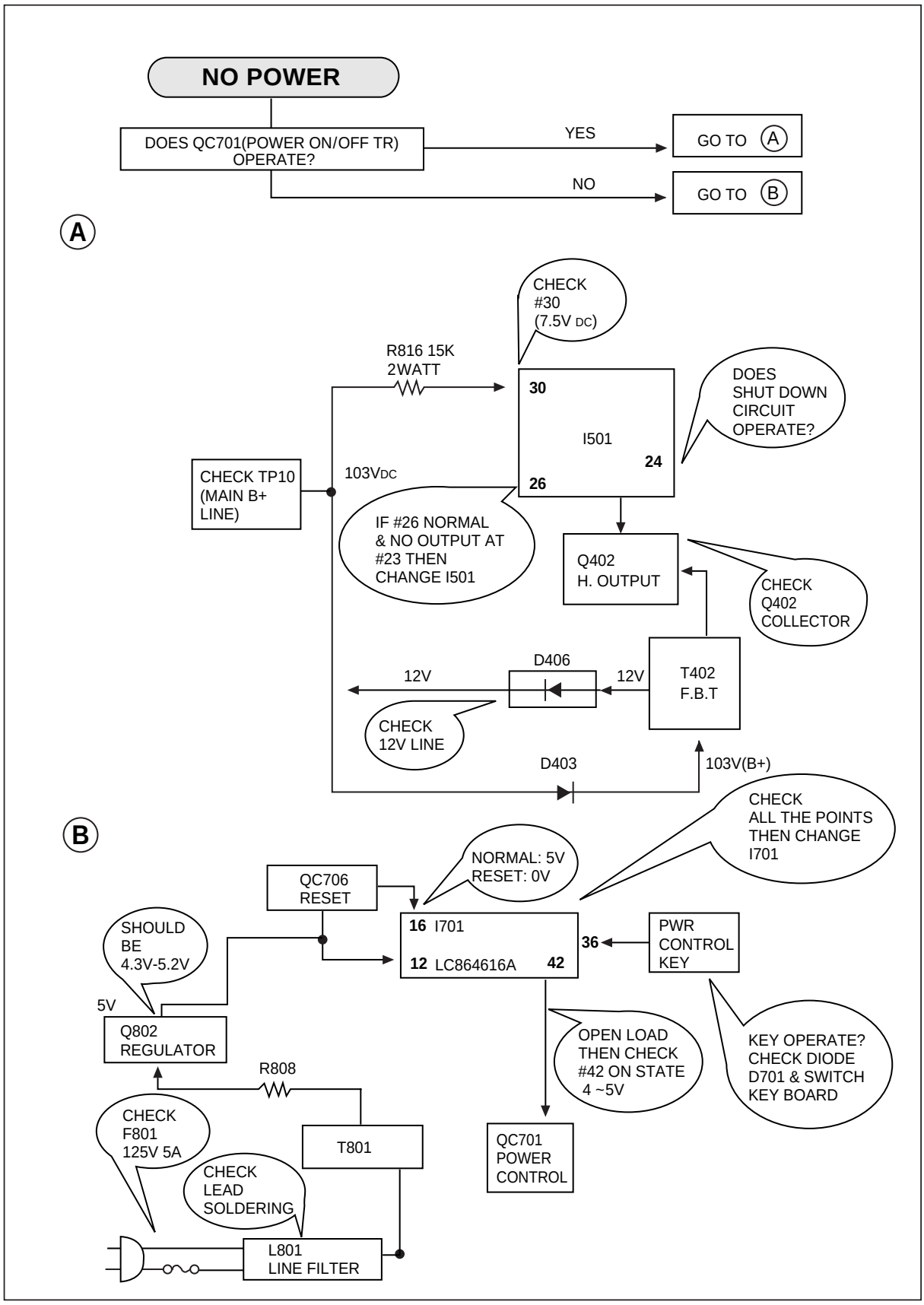
TROUBLE SHOOTING CHARTS



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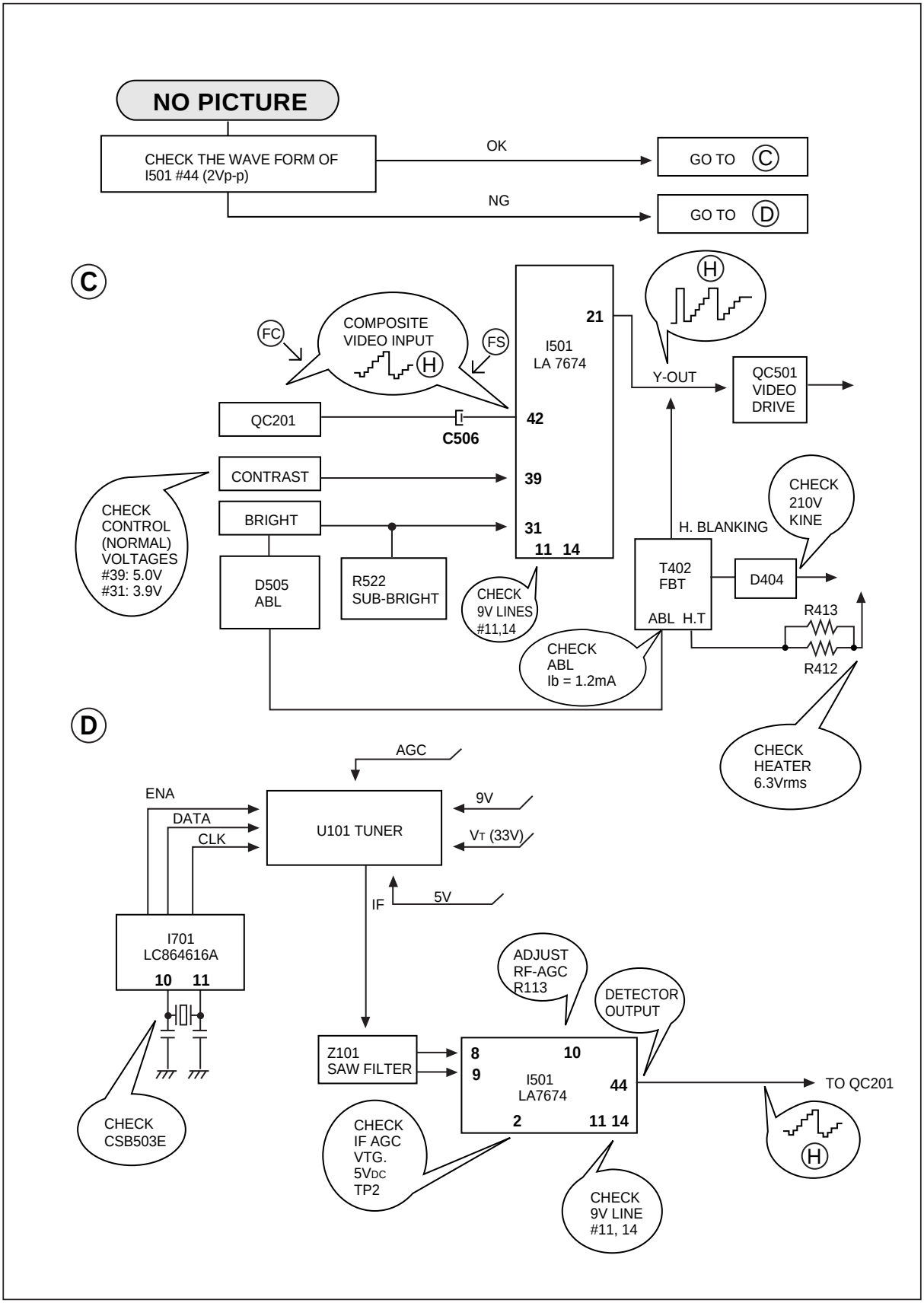

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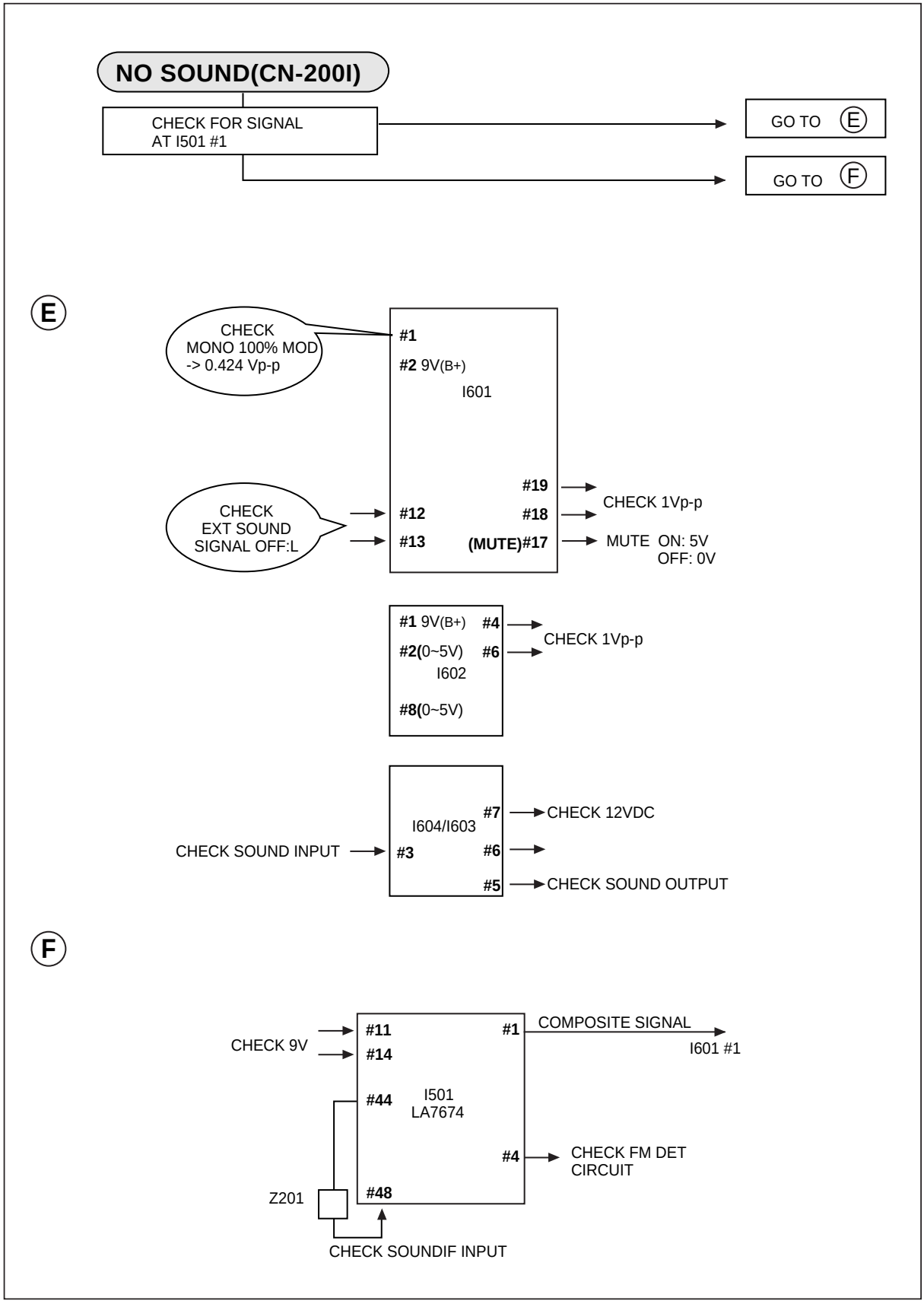

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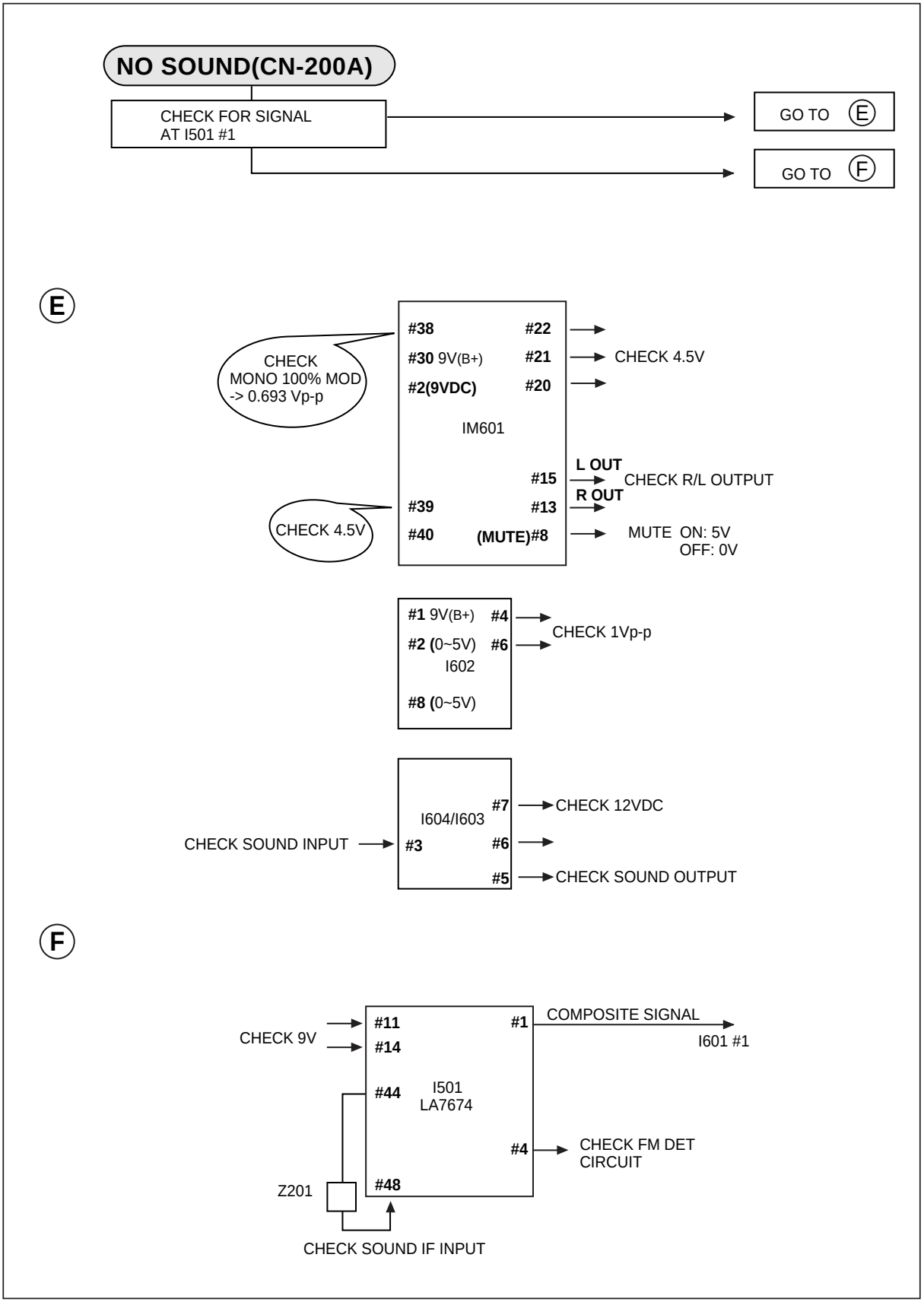

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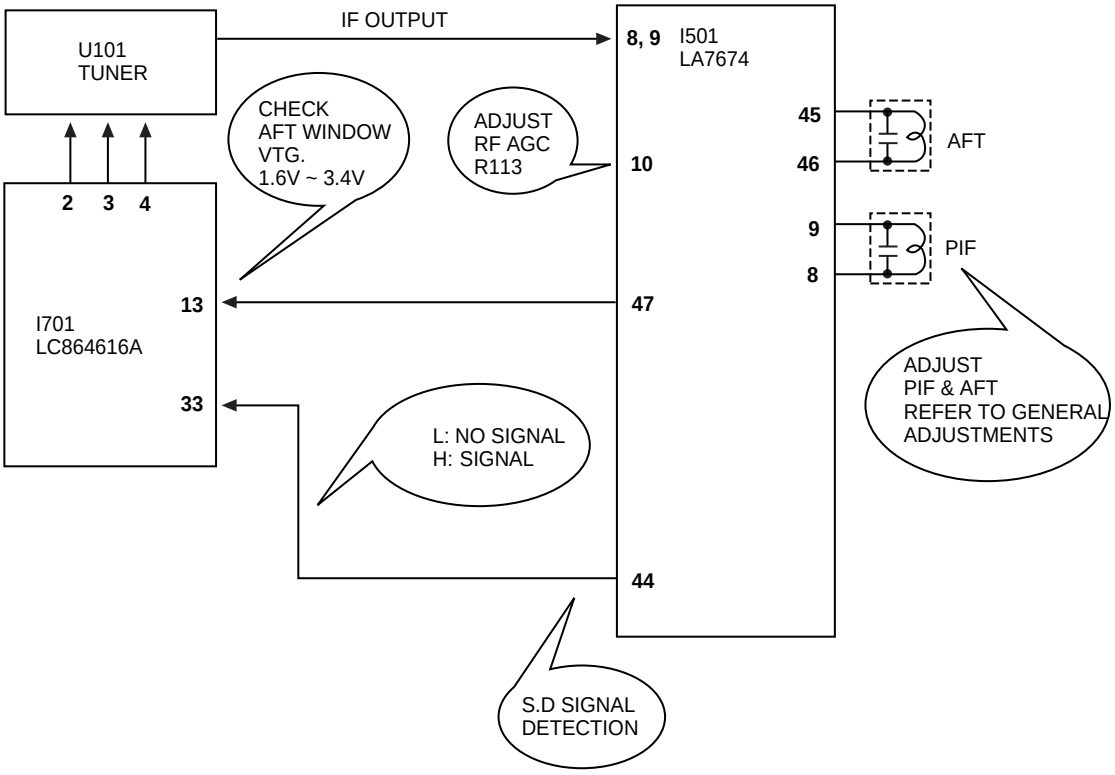

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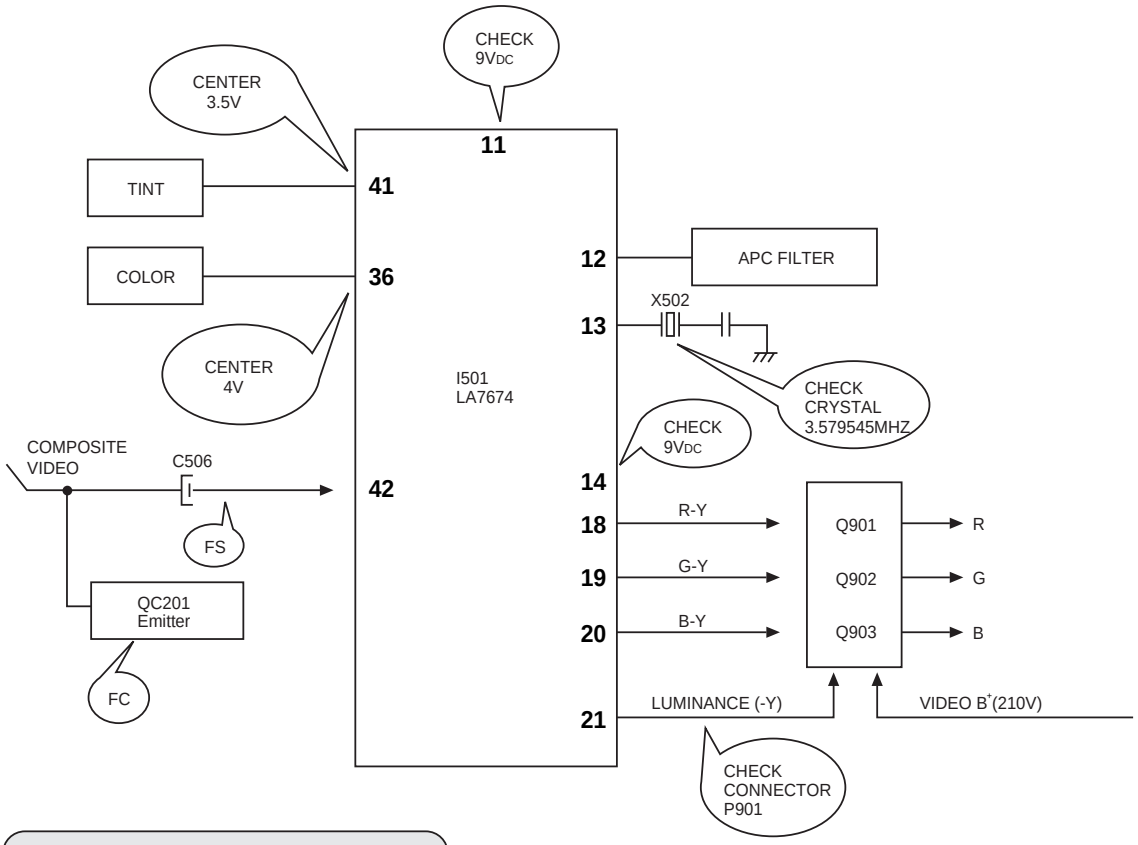

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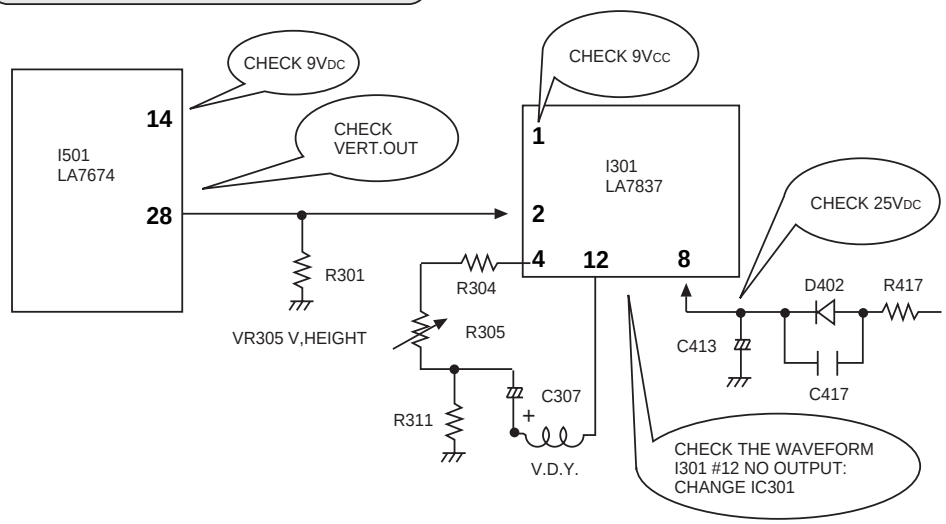

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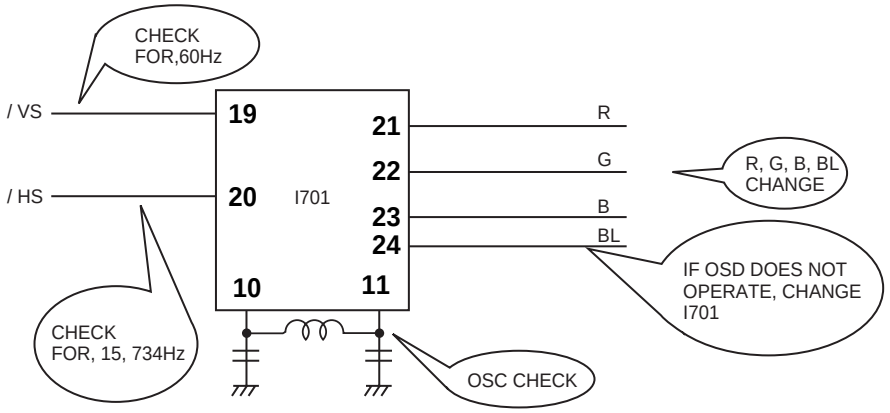
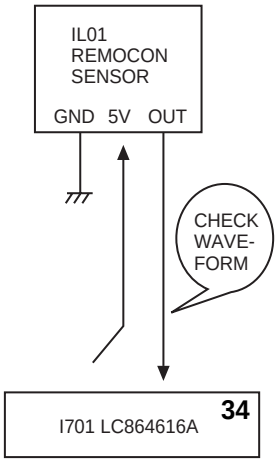
ON SCREEN DISPLAY DOES NOT OPERATE



REMOTE CONTROL DOES NOT OPERATE



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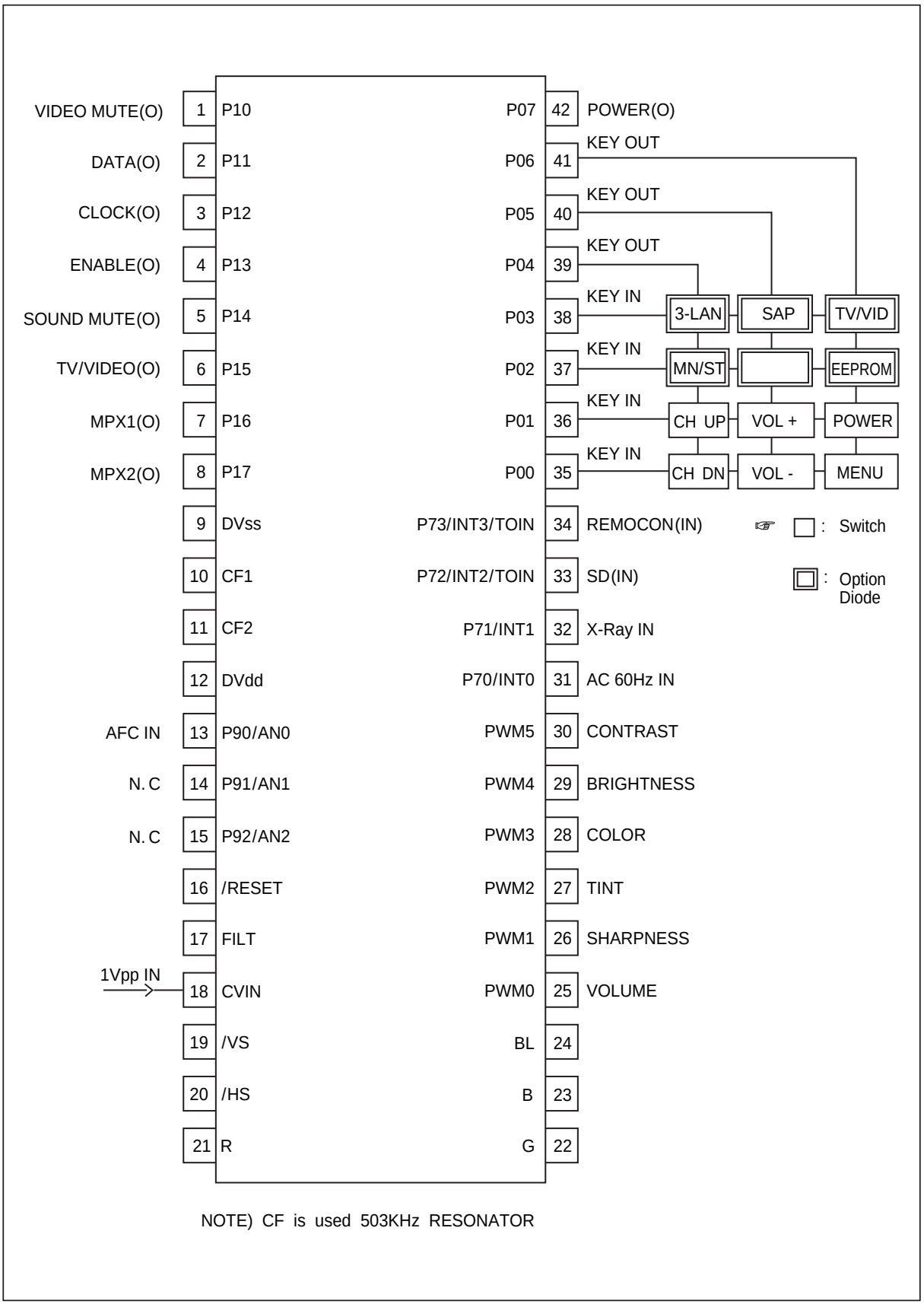

NOTE) CF is used 503KHz RESONATOR

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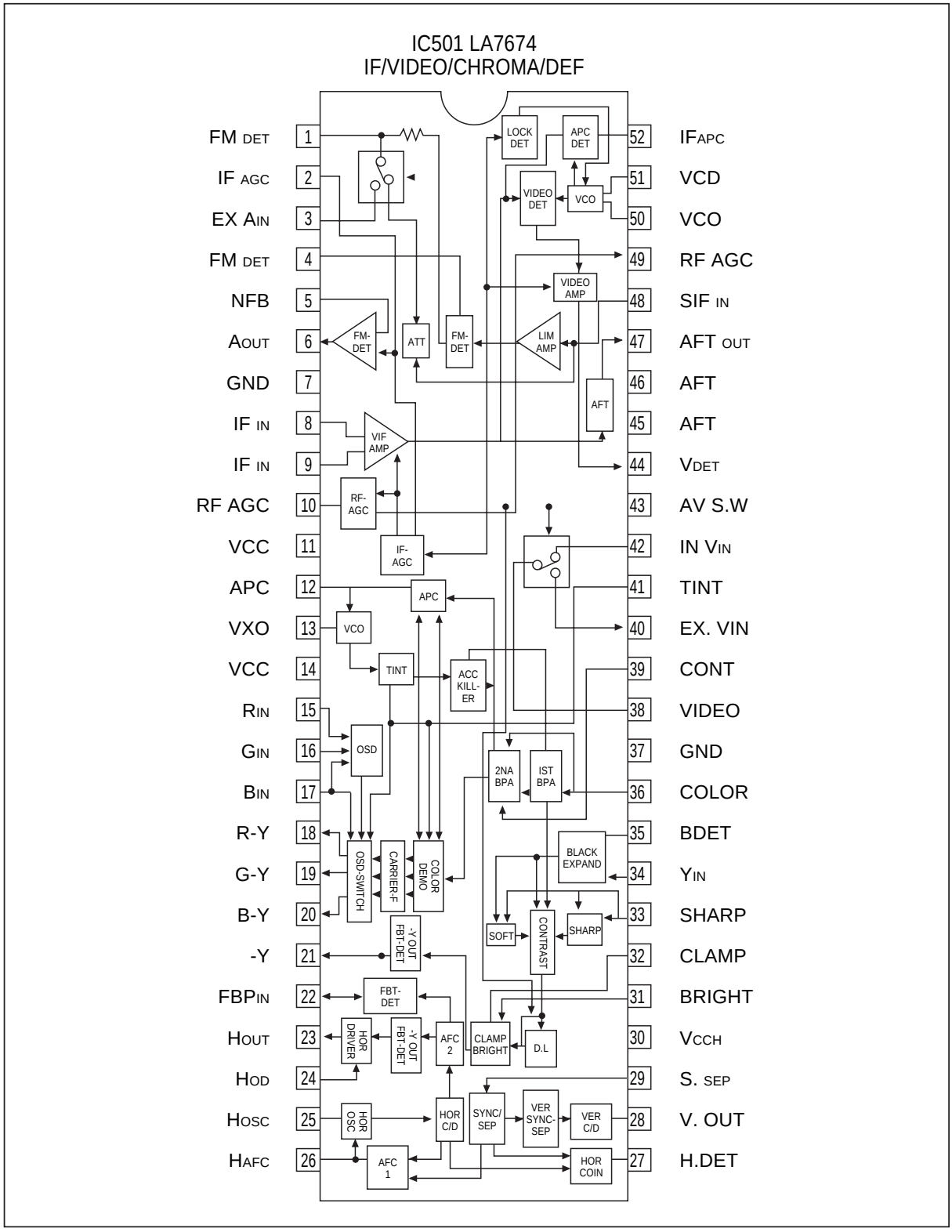
■ DESCRIPTION OF SEMICONDUCTORS

LA7674 (VIF/SIF/VIDEO/CHROMA/DEFLECTION)

1. Case Outline : SDIP 52P

2. Pin Connections/Block Diagram



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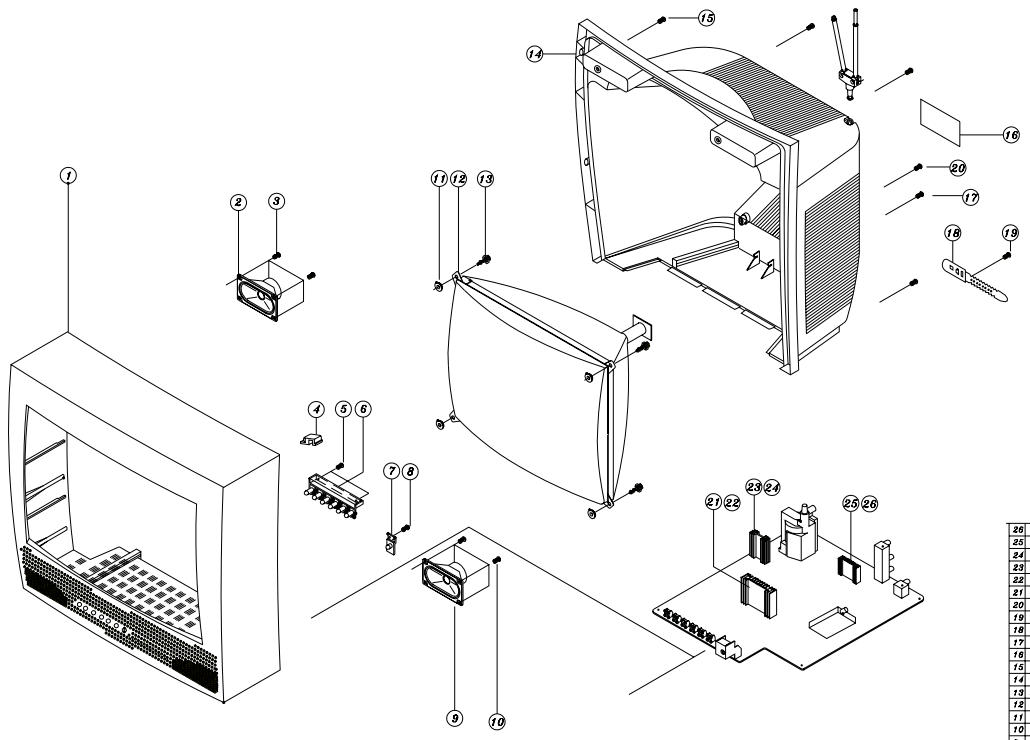
■ DTQ-26S1FC/FS/FSP/HC/HS/HSP
EXPLODED VIEW



26	7174300811	SCREW TAPPING	1	TT2 RND 3XB MFZN	
25	4857024500	HEAT SINK	1	AL EX	
24	7174300811	SCREW TAPPING	1	TT2 RND 3XB MFZN	
23	4857024502	HEAT SINK	1	AL EX	
22	7174300811	SCREW TAPPING	1	TT2 RND 3XB MFZN	
21	4857035500	HEAT SINK	1	AL EX	
20	7128301212	SCREW TAPPING	1	TBS WAS 3*12 MFZN BK	
19	7128401411	SCREW TAPPING	1	TBS TRS 4*14 MFZN	C/B+HOL
18	4853526600	HOLDER CORD	1	NYLON66(DACB-193)	
17	7128401411	SCREW TAPPING	1	TBS TRS 4*14 MFZN	C/B+PBT
16	4855415800	SPEC PLATE	1	150ART P/E FILM(C/TV)	
15	7128401611	SCREW TAPPING	9	TBS TRS 4*16 MFZN	M/F+C/B
14	4858137900	COVER BACK	1	FR HIPS BK	
13	4856013200	CRT FIX SCREW	4	SWRM+SK-5 (L=25)	
12	4859009200	CRT	1	A63ADT10X05	
11	4856215402	WASHER RUBBER	4	CR	
10	7128301211	SCREW TAPPING	4	TBS WAS 3*12 MFZN	
9	4858309810	SPEAKER	1	AS3X2	
8	7128301011	SCREW TAPPING	1	TBS WAS 3*10 MFZN	
7	4855532600	DECO SENSOR	1	PMMA CL	
6	4854935001	BUTTON	1	HC ABS BK	
5	7128301011	SCREW TAPPING	2	TBS WAS 3*10 MFZN	
4	4853525500	HOLDER CORD	1	FR HIPS BK	
3	7128301211	SCREW TAPPING	4	TBS WAS 3*12 MFZN	
2	4858309810	SPEAKER	1	AS8X2	
1	4852050700	MASK FRONT	1	FR HIPS BK	

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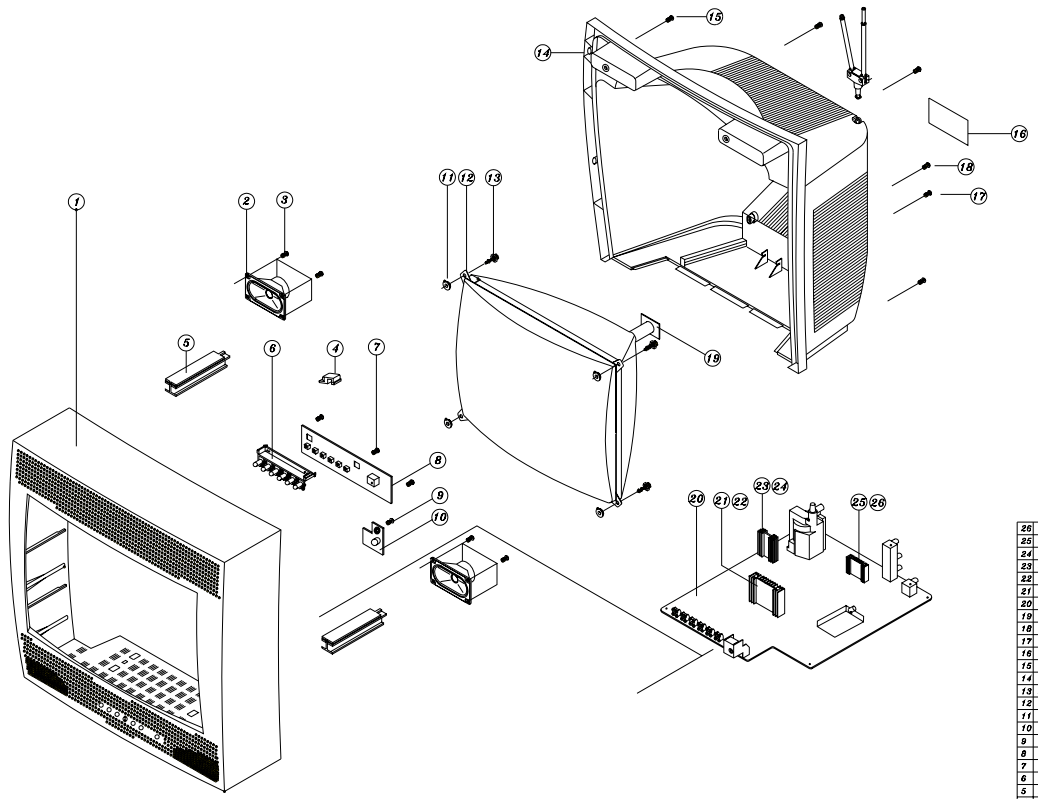
■ DTQ-29S1FCN/FSN/FSP/HC/HS/HSP
EXPLODED VIEW



26	7174300811	SCREW TAPPING	1	TT2 RND 3X8 MFZN	
25	4857024500	HEAT SINK	1	AL EX	
24	7174300811	SCREW TAPPING	1	TT2 RND 3X8 MFZN	
23	4857024502	HEAT SINK	1	AL EX	
22	7174300811	SCREW TAPPING	1	TT2 RND 3X8 MFZN	
21	4857025500	HEAT SINK	1	AL EX	
20		MAIN PCB			
19		CRT PCB			
18	7128301212	SCREW TAPPING	1	TBS WAS 3*12 MFZN BK	
17	7122401411	SCREW TAPPING	1	TBS TRS 4*14 MFZN	C/B+FBT
16	4855415800	SPEC PLATE	1	150ART P/E FILM(C/TV)	
15	7122401611	SCREW TAPPING	10	TBS TRS 4*16 MFZN	M/F+C/B
14	4852137800	COVER BACK	1	FR HIPS BK	
13	4856013200	CRT FIX SCREW	4	SWRM-SK-5 (L=25)	
12		CRT	1		
11	4856215402	WASHER RUBBER	4	CR	
10	4855521900	DECO SENSOR	1	PMMA CL	
9	7128301011	SCREW TAPPING	1	TBS WAS 3*10 MFZN	
8		CONTROL PCB			
7	7128301211	SCREW TAPPING	8	TBS WAS 3*12 MFZN	
6	4854983301	BUTTON	1	HC ABS BK	
5	4853939000	BRKT PCB	2	FR HIPS BK	
4	4853535500	HOLDER CORD	1	FR HIPS BK	
3	7128301211	SCREW TAPPING	8	TBS WAS 3*12 MFZN	
2	4858309810	SPEAKER	2	ASSY2	
1	4852050400	MASK FRONT	1	FR HIPS BK	

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SCHEMATIC DIAGRAM

CN-200A

DTQ-26S1HC
DTQ-29S1HC
DTQ-26S1HS
DTQ-29S1HS
(220V) DTQ-26S1HSP
(220V) DTQ-29S1HSP

1. CAUTION

⚠ SYMBOL MARKED PARTS IN THE SCHEMATIC DIAGRAM DESIGNATE THE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES INDENTICAL TO THOSE IN ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. DO NOT DEGRADE THE SAFETY OF THE RECEIVER THROUGH IMPROPER SERVICING.

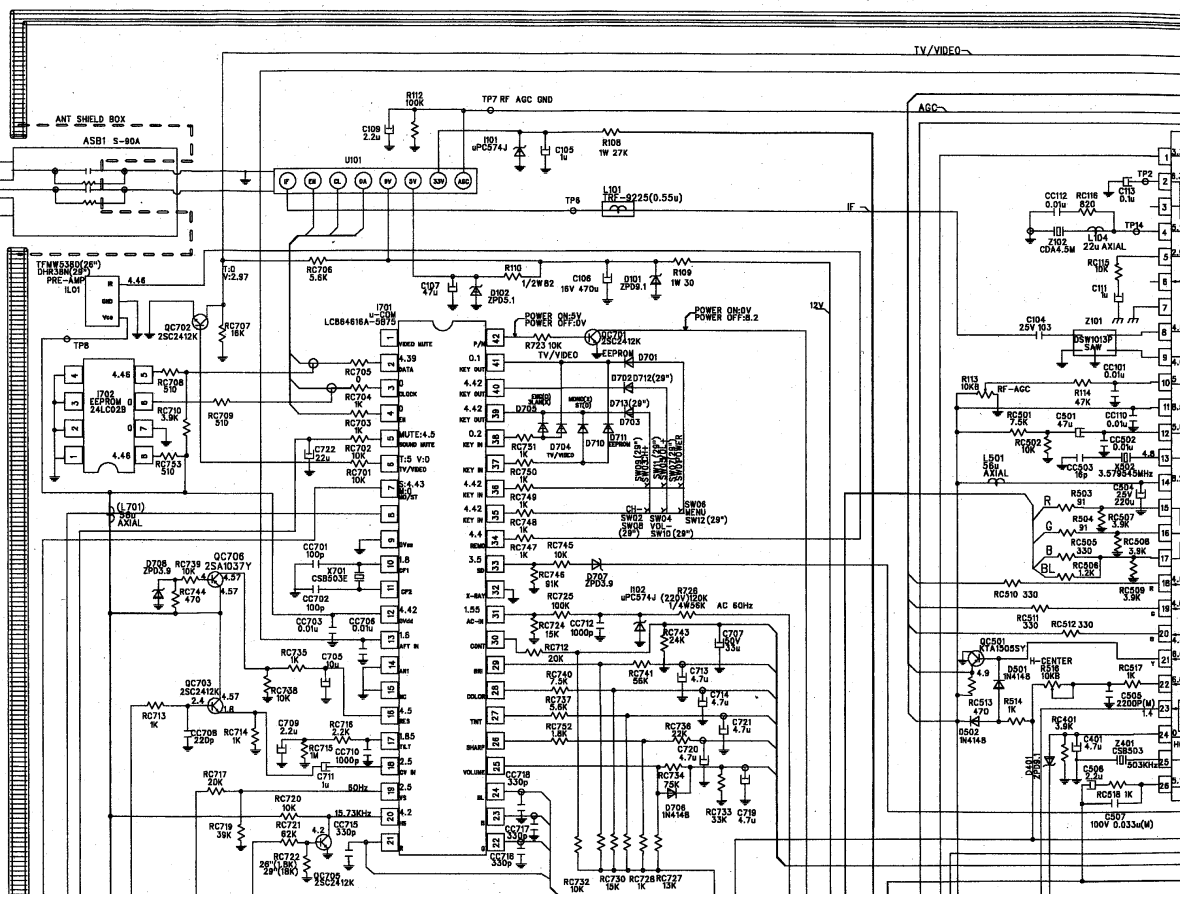
WARING :

BEFORE SERVICING THIS CHASSIS,READ THE "X-RAY RADIATION PRECAUTION " "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL.

CAUTION TO THE SERVICE TECHNICIANS :

BEFORE RETURNING THE RECEIVER TO THE CUSTOMER APROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENT SHOULD BE CONDUCTED TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTE :



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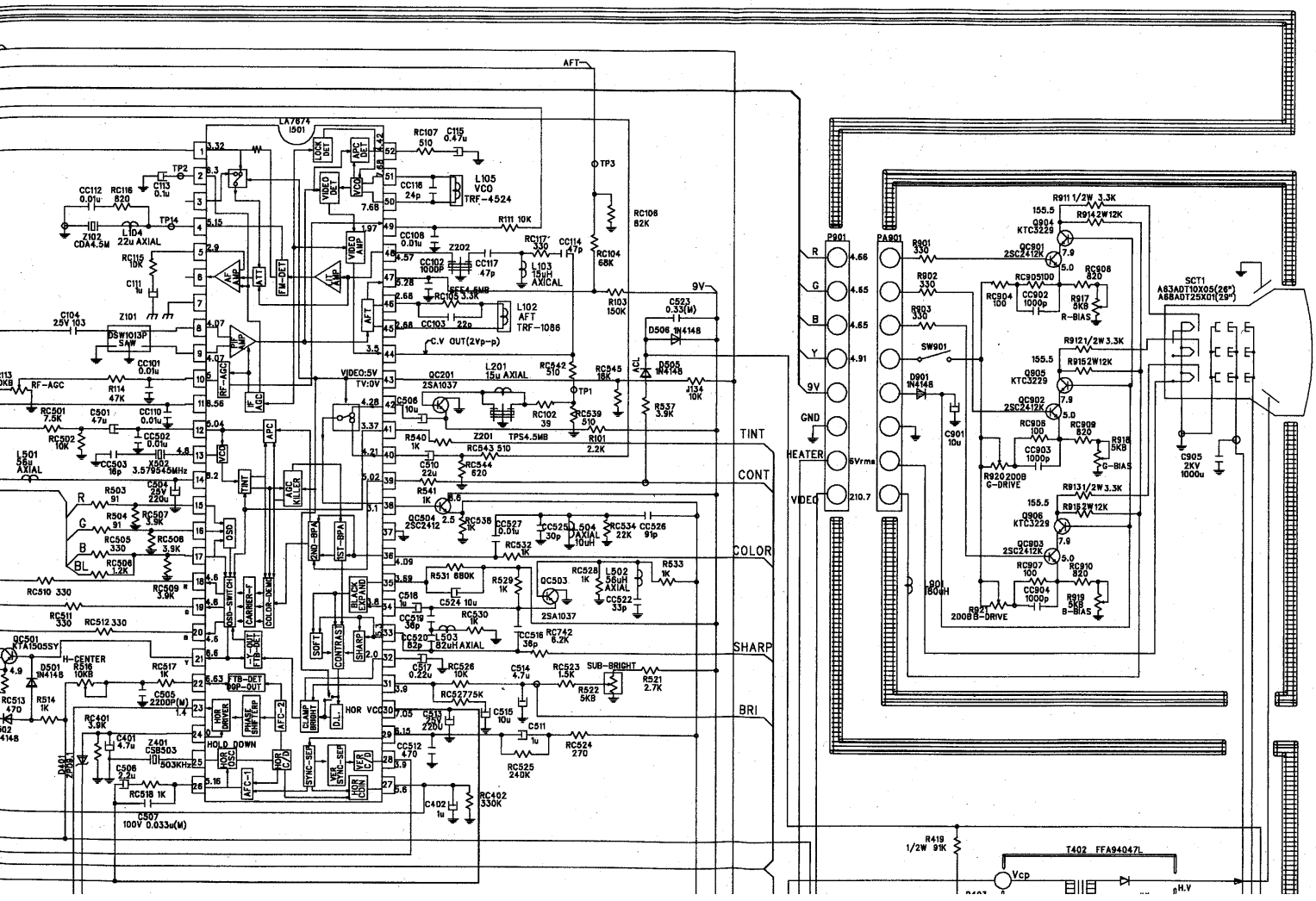

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NOTE :

1. RESISTANCE IS SHOWN IN OHMS. K=1,000 M=1,000,000

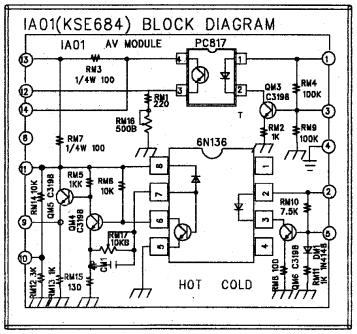
2. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITOR VALUES LESS THAN 1 ARE EXPRESSED IN uF AND THE VALUES MORE THAN 1 IN pF.

3. VOLTAGES READ WITH "V.T.V.M" FROM POINT INDICATE TO CHASSIS GROUND USING A COLOR BAR SIGNAL WITH ALL CONTROLS AT NORMAL LINE VOLTAGE 120 VOLTS AC. VOLTAGE READINGS SHOWN ARE NORMAL VALUES AND MAY VARY +20% EXCEPT H.V.

4. IN CASE OF 19" RECEIVER THE COMPONENT WITH THE MARK * SHOULD BE USED ONLY.

5. THE CIRCUIT DIAGRAM IS A STANDARD ONE. CIRCUITS PRINTED MAY BE SUBJECT TO CHANGE FOR PRODUCT IMPROVEMENT WITHOUT PRIOR NOTICE.

IA01(KSE684) BLOCK DIAGRAM



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PCB CTRL :4859829814

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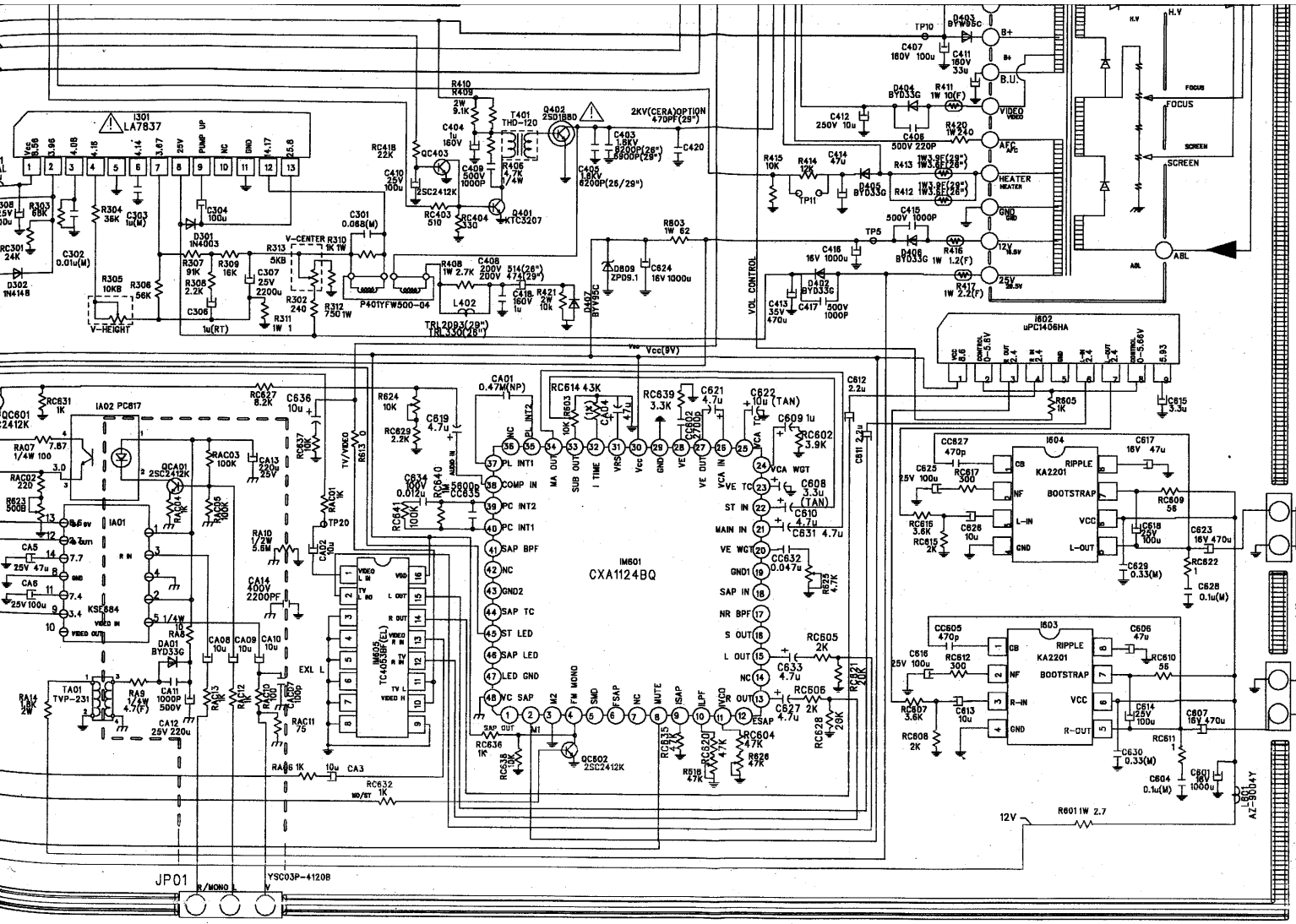

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SCHEMATIC DIAGRAM

CN-2001

DTQ-29S1FCN
DTQ-26S1FC
DTQ-26S1FS
DTQ-29S1FSN
(220V) DTQ-29S1FSP
(220V) DTQ-26S1FSP

1. CAUTION

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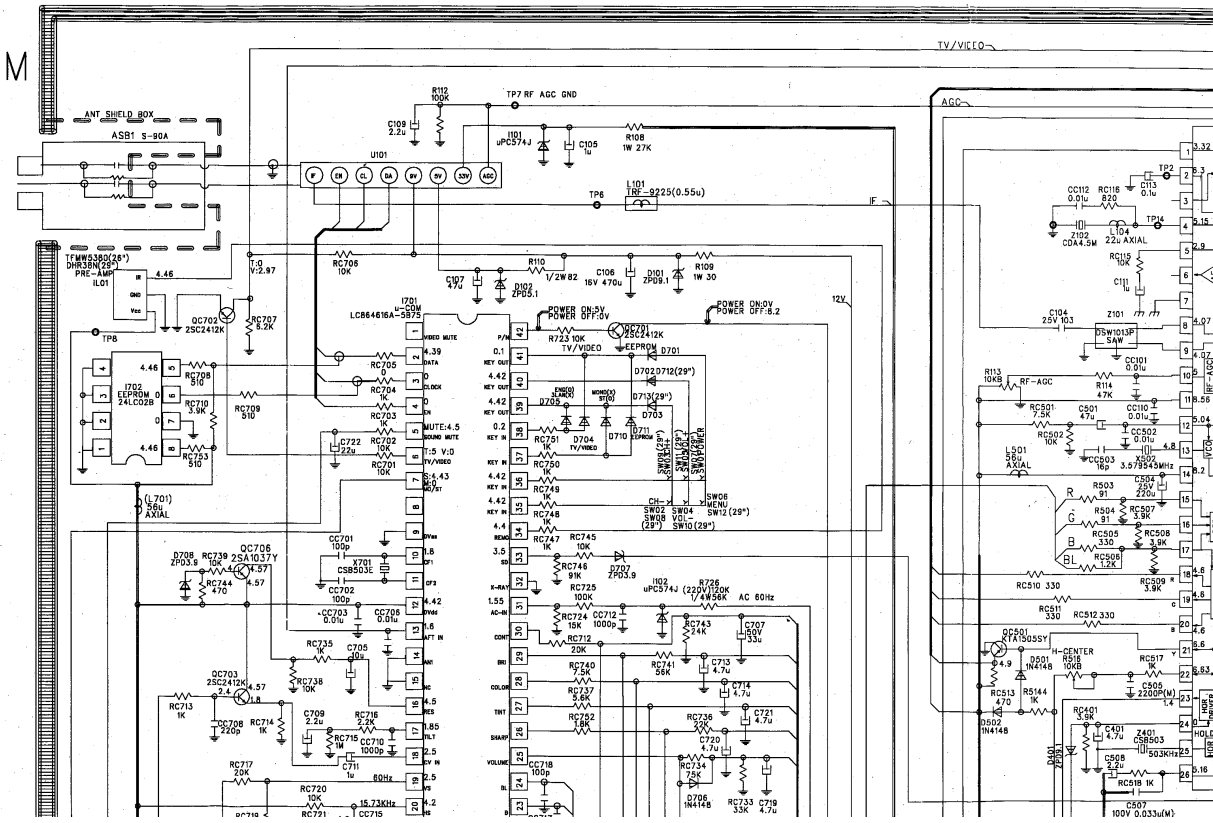

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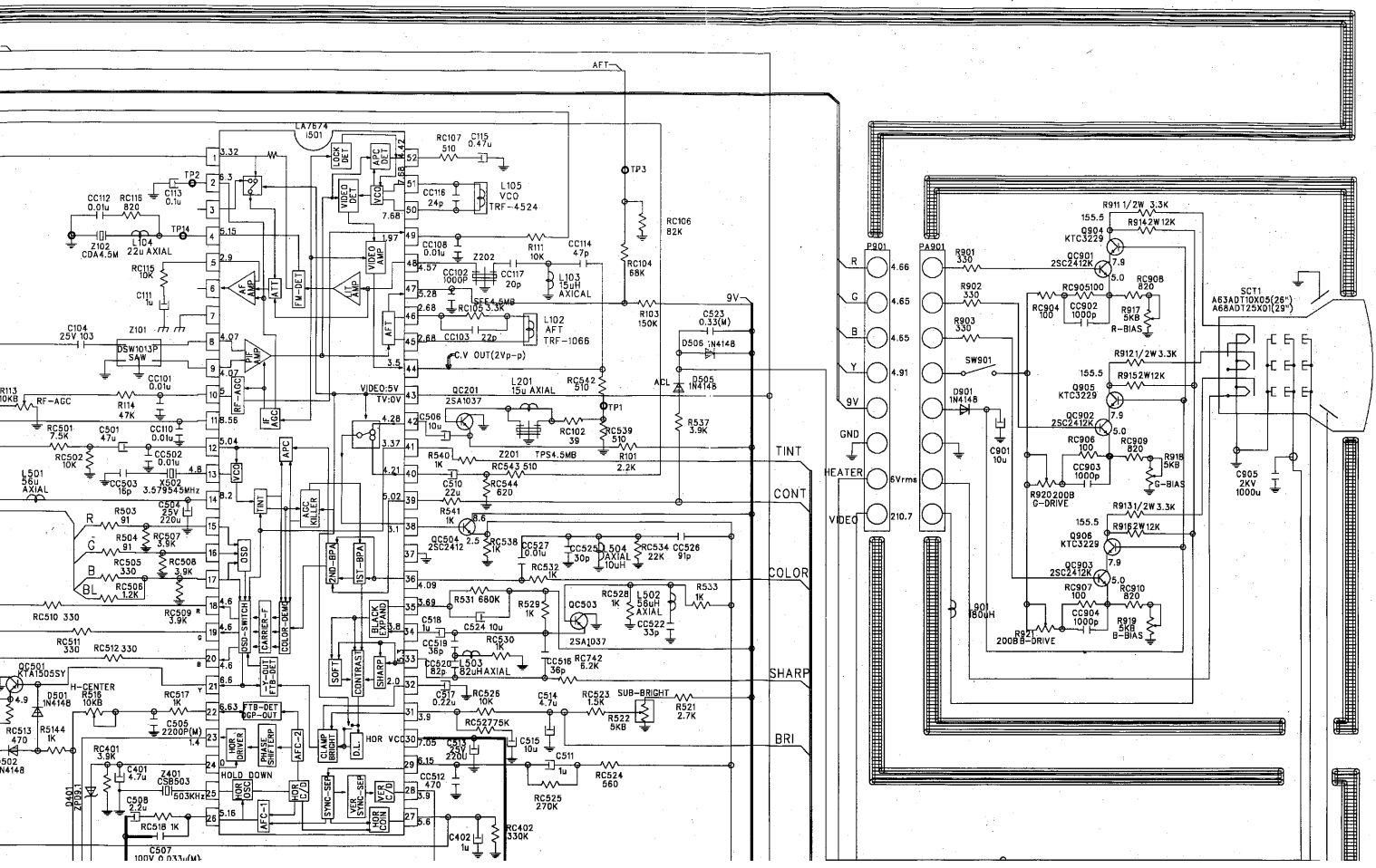

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ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

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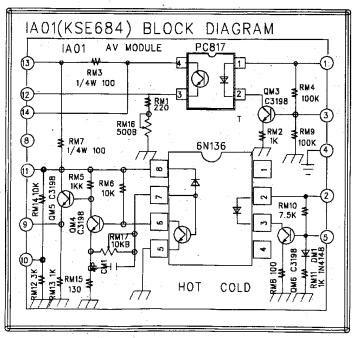

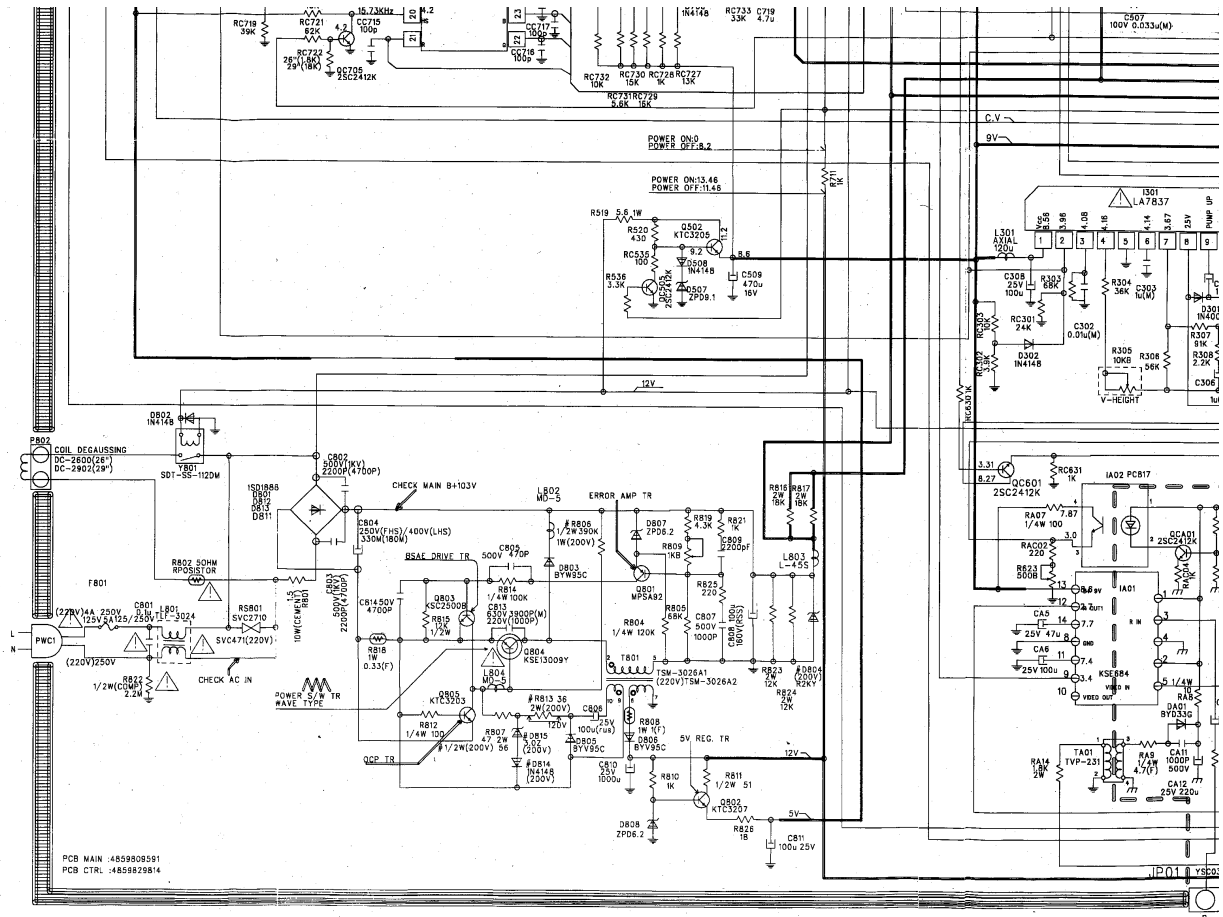

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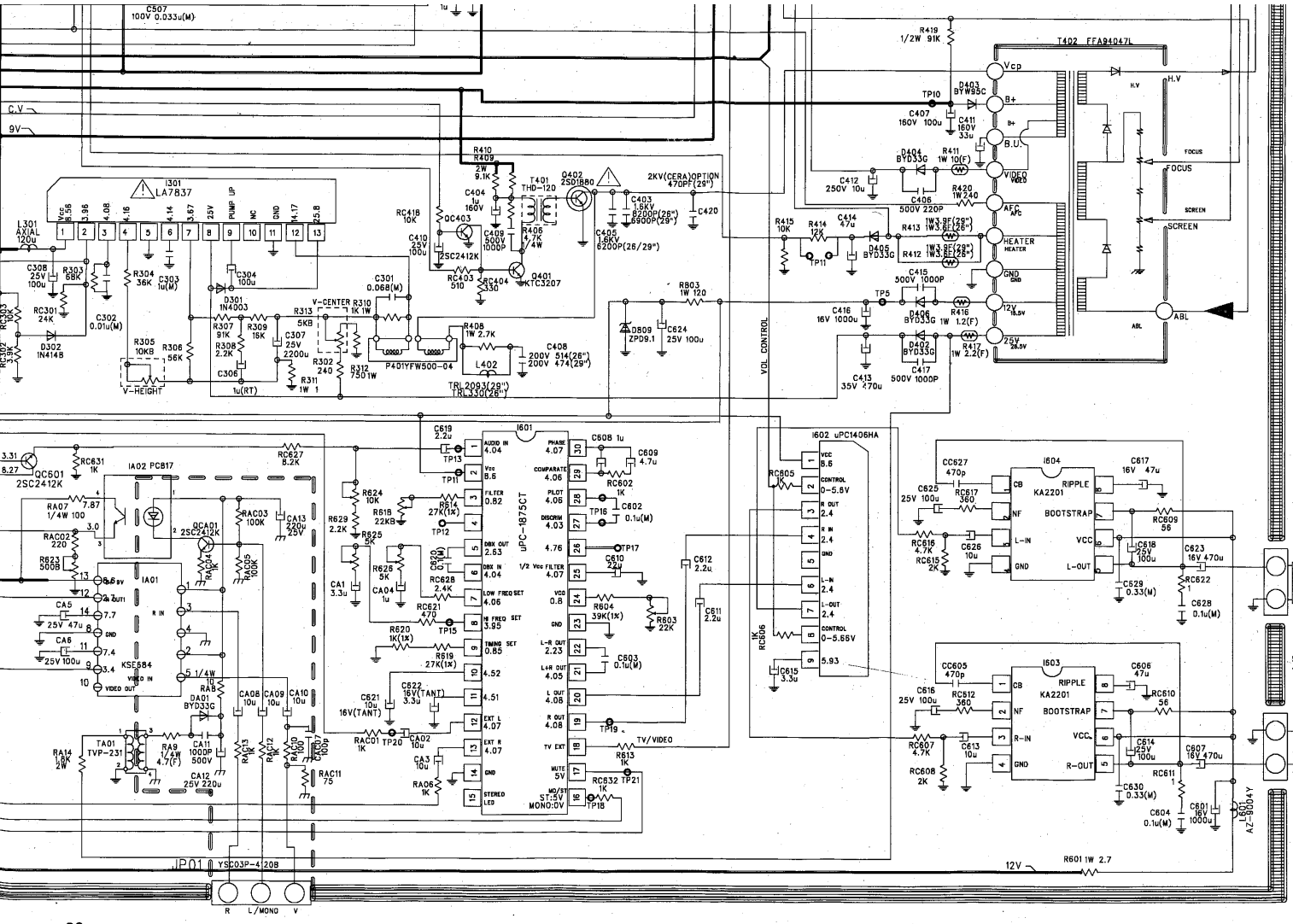

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